JVC

SERVICE MANUAL

MODEL
3070EUS

B/W PORTABLE
TELEVISION RECEIVER
WITH FM/SW/MW
RADIO & CASSETTER

No. 3290
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Specifications

TV Standard:	CCIR TV standard (625 lines)
TV Channel Coverages:	CCIR VHF channels 2 – 12 & UHF channels 21-69
Radio Frequency Ranges:	FM 88 – 108MHz
	SW 6 – 18MHz
	MW 510 – 1600kHz
Antennas:	Built-in Rod antenna for TV & FM, SW radio.
	Built-in ferrite core antenna for MW, SW radio.
Tuner for TV:	Contact-less electronic tuner
Picture Tube:	3-inch, picture measured diagonally, 40-degree deflection
Semi-conductors:	4 ICs, 39 Transistors, 54 Diodes
Speaker:	12 cm round type 4 ohms 1 pc.
Tape:	Philips type cassette
Track System:	2-track monaural
Monitor System:	Variable sound monitor
Rewind Time:	Within 100 sec. (with C-60 cassette)
Fast Forward Time:	Within 100 sec. (with C-60 cassette)
Wow & Flutter:	Less than 0.3% (WRMS)
Recording System:	AC bias system
Erasing System:	AC Erasing system
S/N Ratio:	50dB
Frequency Characteristics:	80 – 10,000Hz
Mike Jack:	-60dBs (0.8mV), 8kΩ
REC/PB jack:	DIN
input terminal	-60dBs (0.8mV), 9.2kΩ
output terminal	0dBs (0.8V RMS), 2kΩ
Built-in Mike:	Condenser microphone
Audio Output:	3.0W max. (2.0W at 10% distortions)
Power Input:	AC 220V, 50Hz, DC 9V (6D cells)
	DC 12V car battery with car battery cord supplied.
Power Consumption:	AC 12.5W (On Recording from TV with sound max.)
Dimensions:	12.9cm(H) x 35.2cm(W) x 27.5cm(D)
Weight:	4.4kg

Note: Design and specifications subject to change without notice.

Servicing in the Field

Cleaning the Cabinet

Clean the external appearance of Cabinet body when necessary, with a clean soft cloth with mild soap. Don't use any solution which contains benzine or petroleum.

Raster Centering

The centering device is 2 magnetic rings located on yoke rear cover. By alternately rotaing those 2 magnetic rings, the picture can be properly centered on the screen.

Deflection Yoke Adjustments

If the lines of the raster are not horizontal or corner shadows appear, loose the yoke clamp screw and rotate deflection yoke, push yoke snug up against bell of picture tube.

Vertical Height and Vertical Linearity Adjustments

When the upper or lower part of picture extends or shrinks, adjust the vertical height and vertical linearity controls alternately to fill the screen ¼ inch beyond the mask until the picture on test pattern is symmetrical from top to bottom. The height control extends (or shinks) mainly a lower part of raster, and the linearity control an upper part.

AGC Adjustment

Adjust the AGC control when picture is a very slight bend as it's top, or excessive snow.
AGC may be adjusted by tuning the control fully counterclockwise when there is a very slight bend, and clockwise when snow.

Disassembly Instructions

1. Rear Cover Removal

1. Unfasten 5 screws fastening the rear cover indicated in Fig. 1.
2. Remove the rear cover.

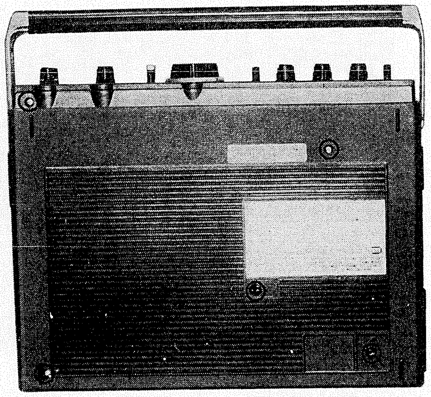
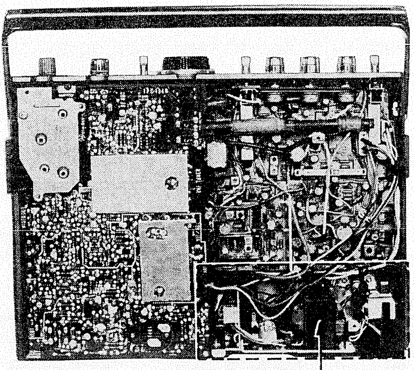


Fig. 1

2. Power Supply Block Removal

1. Remove the rear cover refer to "Rear Cover Removal".
2. Unplug the plug indicated in Fig. 2.
3. Pull the power supply block upwards.

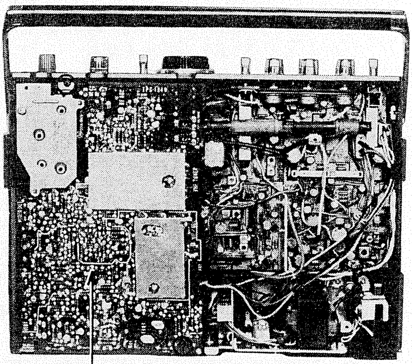


Power Supply Block

Fig. 2

3. TV Printed Circuit Board Removal

1. Remove the rear cover.
2. Unfasten 2 blue screws fastening the board indicated in Fig. 3.
3. Pull out the VHF selector knob.
4. Pull the TV printed circuit board backwards while lifting up the antenna terminal ass'y.



TV Printed Circuit Board Ass'y

Fig. 3

After unfastened 2 blue screws and pulled out the VHF selector knob, the TV printed circuit board will be vertically placed as indicated in Fig. 4.
It is convenience in the repairing because of intact wiring connections.

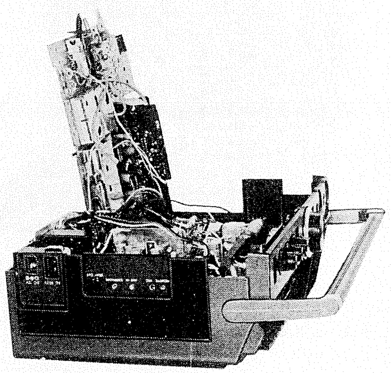


Fig. 4

4. Radio and Amplifier Printed Circuit Board in one Removal

1. Remove the power supply block and the TV printed circuit board.
2. Pull out the radio tuning, volume, tone and mix balance control knobs.
3. Unfasten 3 blue screws fastening the printed circuit board and a blue screw fastening the radio tuning holder indicated in Fig. 5.
4. Pull the rearward of the printed circuit board backwards. The printed circuit board will be removed together with the radio tuning holder.

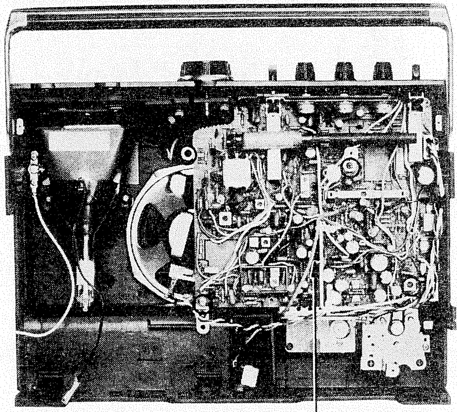


Fig. 5

5. Radio Tuning Holder Removal

This is the method to remove the radio tuning holder from the radio and amplifier printed circuit board in one.

1. Remove the radio and amplifier printed circuit board in one from the set refer to "Radio and Amplifier Printed Circuit Board in one Removal".
2. Unscrew 3 washers for the volume tone and mix balance controls from their shafts.
3. Unfasten a screw fastening the radio band selector switch and also a screw fastening the dram to the shaft of the variable capacitor from the reverse side of the printed circuit board.

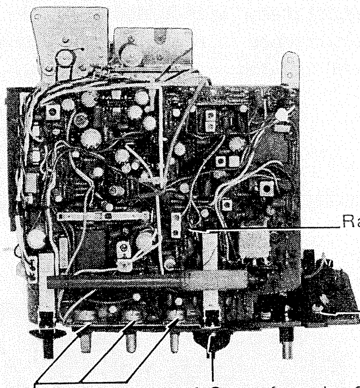


Fig. 6

6. Cassette Mechanism Ass'y Removal.

1. Remove the power supply block and the printed circuit board for TV.
2. Pull out the radio tuning, volume, tone and mix balance control knobs.
3. Unfasten 7 blue screws indicated in Fig. 7.
4. Pull the cassette mechanism ass'y backwards while lifting up the rearward of the ass'y.

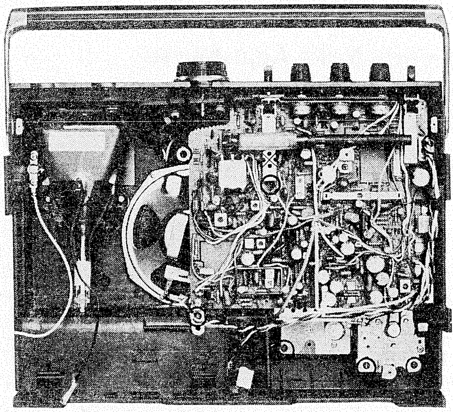


Fig. 7

As the cassette mechanism ass'y will be removed together with the radio and amplifier printed circuit board in on and the radio tuning holder, remove the mechanism ass'y from them refering to "4. Radio and Amplifier Printed Circuit Board in one Removal" the * marked screw indicated in Fig. 7 is located on interior place through the circle opening on the printed circuit board.

7. CRT Removal

1. Remove the printed circuit board for TV.
2. Unfasten 2 screws fastening the CRT holder.
3. Remove the CRT.

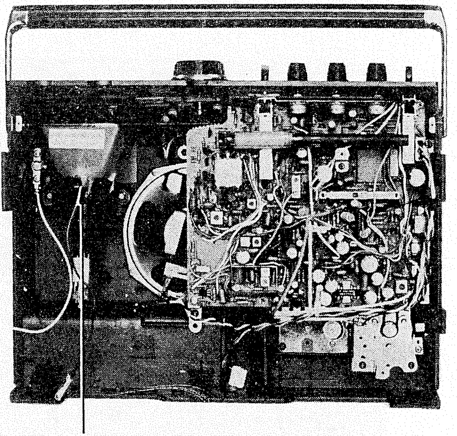


Fig. 8

8. Handle Ass'y Removal

1. Remove the printed circuit board ass'y for TV and, radio and amplifier in one.
2. Pull out a handle spring and E type washer with a plier from each side of the handle.
3. Remove the handle ass'y from the set.

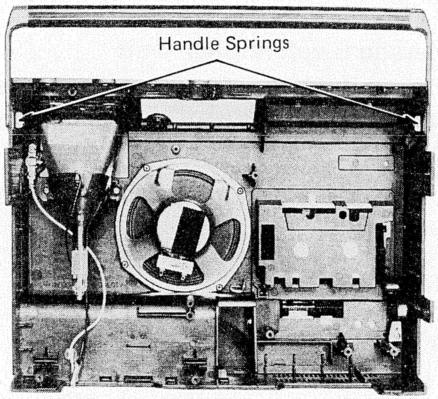


Fig. 9

9. Rod Antenna Removal

1. Remove the TV printed circuit board ass'y.
2. Unfasten 2 screws fastening the rod antenna shown in Fig. 10.
3. Pull the rod antenna to the inside of the set.

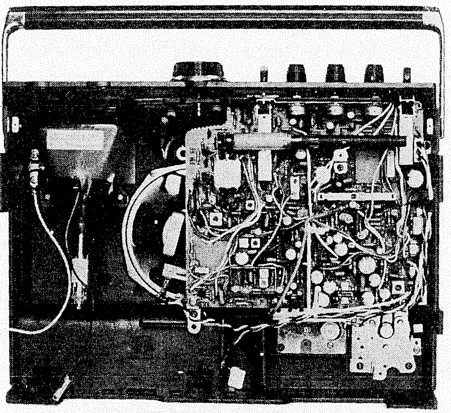


Fig. 10

Alignment Instructions For TV.

B. Voltage Adjustment

DC Voltmeter . . . . . Connect a DC voltmeter (15V range) between TP-91 and earth.

Adjust R515 until +5.9 Volts are obtained.

PIX IF Alignment

Test Equipments

Sweep generator with marker
  Sweep frequency range 30~45MHz
  Marker generator frequency 40.4, 38.9, 36.8, 34.7, 33.4MHz
Oscilloscope
Power source
  DC 5.9V and 0.7V for AGC

Preparations before Alignment

1. Set "Band Selector" switch to VHF Low position.
2. Connect the capacitor and resistor (1000pF & 560Ω) in series between TP-5 and output of the sweep generator.
3. Connect the resistor (10kΩ) between TP-12 and input of the oscilloscope.
4. Supply DC +0.7V for AGC voltage to TP-14 and DC +5.9V to TP-91.
5. Connect the base of X401 Transistor to earth to stop the working of the horizontal oscillator circuit.

Alignment procedures

1. Align the wave center to 36.8MHz and also for maximum gain with L102.
2. Align T102 to obtain equal height of 38.9MHz and 34.7MHz markers.

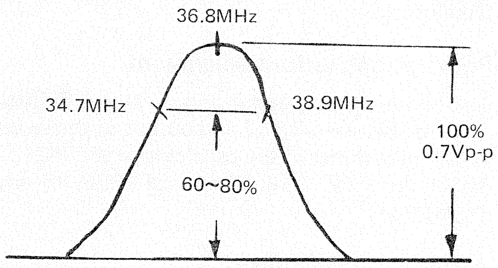


Fig. 11

Note: Keep the equal height of 38.9MHz and 34.7MHz markers even if there is slant on top of the response curve. (Fig. 12)

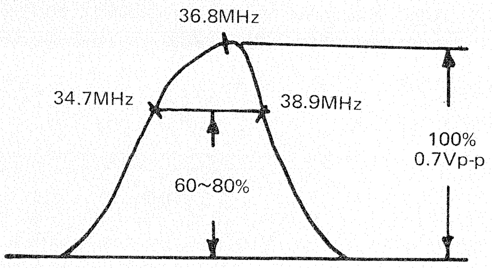


Fig. 12

Over-all Alignment

Preparation before Alignment

Change the connection of the sweep generator only to TP-4 on PIX IF Alignment abovementioned.

Alignment procedure

Align T1, T101 and L101 to obtain the response curve illustrated in Fig. 13.

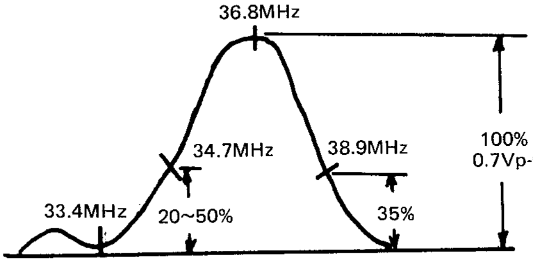


Fig. 13

Note: Align T102 if there is slant on top of the response curve.

Sound IF Alignment

Test Equipments

Sweep generator with marker
Sweep frequency range 5.5MHz±500kHz and marker generator frequency 5.5MHz
Oscilloscope

Preparations before Alignment

1. Connect the capacitor and resistor (10000pF & 1kΩ) in series between TP-12 and output of the sweep generator.
2. Connect input of the oscilloscope to TP-21.
3. Set the "TV Tuning" control (R28) to any non-signal position.

Alignment procedure

1. Make strongly output of the sweep generator within suppressing the limitter.
2. Align the wave center to 5.5MHz with T203 illustrated in Fig. 14.
3. Make weakly output of the sweep generator.
4. Align the wave center to 5.5MHz and also for maximum gain with T201, T202.

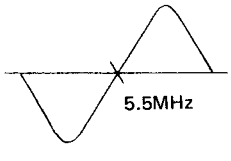


Fig. 14

VHF Tuner Alignment

Test Equipments

Sweep generator
Sweep frequency range 30MHz~250MHz
Oscilloscope
Power source
DC 5.9V and DC 0.7V for AGC
V.T.V.M.

Preparations before Alignment

1. Connect the vertical and Horizontal Terminals of oscilloscope to the corresponding of the sweep generator.
2. Align the vertical gain of oscilloscope to easy reading of 0.7Vp-p on the screen of oscilloscope.
3. Supply DC +0.7V of AGC voltage to TP-14 and DC +5.9V to TP-91.
4. Connect the V.T.V.M. to pin 2 of "TV Tuning" control (R28).

Alignment procedures

1-1 IF Trap Alignment

1. Set "Band selector" switch to VHF Low position.
2. Connect IF signal (38.9MHz) of the sweep generator to TP-1.
3. Align L1 to obtain minimum gain for 38.9MHz.

1-2 Low Channel Alignment

1. Connect RF output of the sweep generator to TP-1.
2. Align the control R28 so that the V.T.V.M. may indicate DC 5.1V.
3. Set the sweep generator to 3CH.
4. Align the wave center to 55.25MHz with L9.
5. Align for maximum gain with L2 and L8.

1-3 High channel Alignment

1. Set "Band selector" switch to VHF High position.
2. Align the control (R28) so that the V.T.V.M. may indicate DC +8.2V.
3. Set the sweep generator to 9CH.
4. Align the wave center to 203.25MHz with L11.
5. Align for maximum gain with L4 and L7.

*repeat the steps abovementioned.

Start point Alignment for tuner AGC

After Turning AGC control (R137) to left fully, turn slowly to right till disappearance of noises on screen of picture tube.

TV Channel Indicator Alignment

1. Set the TV Band selector switch to "High" position.
2. Set the VHF Tuning knob to "5" channel position.
3. Receive 5CH broadcasting program by adjusting volume (R31).
4. Set the VHF Tuning knob to "12" channel position.
5. Receive 12CH broadcasting program by adjusting volume (R29).

Alignment Instructions For Radio

MW IF Alignment

Test Equipments

Sweep generator with marker
Marker generator frequency 445, 455, 465kHz
Oscilloscope
Power supply DC 9V

Preparations before Alignment

1. Set "Band selector" switch to Radio position and "Radio Band" switch to MW position.
2. Set the variable capacitor to near the minimum capacity where no signal comes in.
3. Connect output of the sweep generator between TP-803 and earth of the variable capacitor.
4. Connect input of the oscilloscope to TP-802
5. Supply DC +9V to J3.

IF Alignment

Align the wave center to 455kHz and for symmetrize "A" and "B" shown in below and also for maximum gain with T803 and T804.

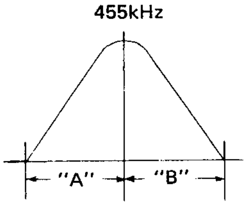


Fig. 15

IC Bias Alignment

Align IC Bias control (R838) to obtain maximum gain.

FM IF Alignment

Test Equipments

Sweep generator with marker
Marker generator frequency 10.55,10.625,10.7,10.775, 10.85MHz
Oscilloscope
Power supply DC 9V

Preparations before Alignment

1. Set "Band selector" switch to Radio position and "Radio Band" switch to FM position.
2. Set the variable capacitor to near the minimum capacity where no signal comes in.
3. Connect the capacitor and resistor (33pF & 33kΩ) in series between TP-801 and RF output of sweep generator.
4. Connect input of the oscilloscope to TP-802.
5. Supply DC +9V to J3.

Alignment procedures

1. Keep the output of sweep generator to 34dB (50μV)
2. Adjust the wave center to 10.7MHz with T808.
3. Adjust T801, 805, 807 and 808 to obtain maximum gain and also for symmetrize to left and right on S curve characteristics.

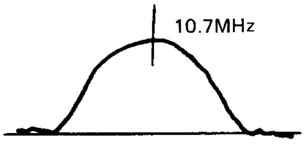


Fig. 16

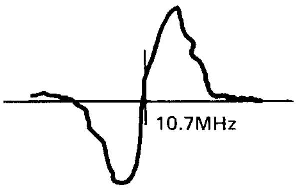


Fig. 17

MW, SW RF Alignment

Preparations before Alignment

1. Set "Band Selector" switch to radio position and "Radio Band" switch to MW or SW position according with chart below.
2. Connect output of the standard signal generator (AM modulation 400Hz, 30%) to test loop antenna.
Keep the distance between the test loop antenna and built-in ferrite bar antenna to 60cm.
3. Connect V.T.V.M. to speaker terminals.

Alignment Procedure

Align according to the chart below.

Step	Band	Frequency of marker	Variable capacitor Setting	Adjust	V.T.V.M. Reading
1	MW	500kHz	Maximum	T802	Maximum
2		1650kHz	Minimum	C825	
3		Repeat the steps 1~2.			
4		620kHz	tune 620kHz	T810 (MW)	Maximum
5		1400kHz	tune to 1400kHz	C821	
6		Repeat the steps 4~5.			
7	SW	5.8MHz	Maximum	T809	Maximum
8		18.6MHz	Minimum	C884	
9		Repeat the steps 7~8.			
10		6MHz	tune to 6MHz	T811 (SW)	Maximum
11		18MHz	tune to 18MHz	C811	
12		Repeat the steps 10~11.			

Chart 1

FM RF Alignment

Preparations before Alignment

1. Set "Band Selector" switch to radio position, "Radio Band" switch to FM position and antenna switch to "EXT ANT" position.
2. Connect output of the standard signal generator (FM modulation 400Hz, 30%) to TP-1.
3. Connect V.T.V.M. to speaker terminals.

Alignment Procedures

Adjust according to the chart below.

Step	Frequency of marker	Variable capacitor Setting	Adjust	V.T.V.M. Reading
1	87.5MHz	Maximum	L803	Maximum
2	109MHz	Minimum	C812	Maximum
3	Repeat the steps 1. 2			
4	90MHz	tune to 90MHz	L801	Maximum
5	106MHz	tune to 106MHz	C803	Maximum
6	Repeat the steps 4. 5			

Chart 2

Parts Arrangement For Radio Alignment

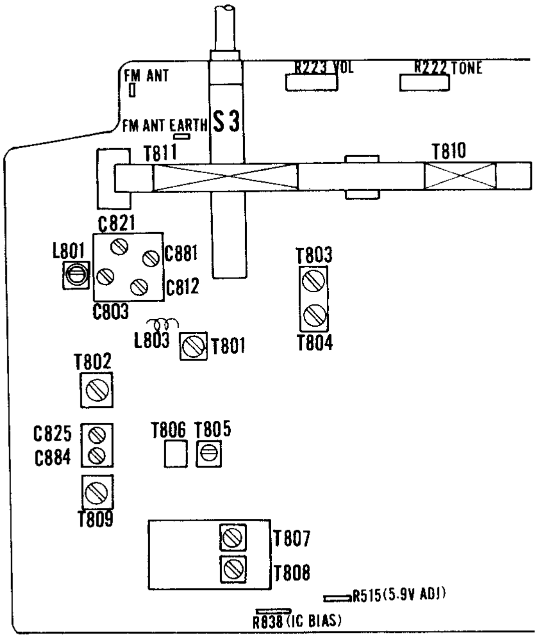

FM ANT
FM ANT EARTH
S 3
R223 VOL
R222 TONE
T811
T810
C821
L801
C881
C812
C803
L803
T801
T803
T804
T802
C825
C884
T806
T805
T809
T807
T808
R515(5.9V ADJ)
R838(IC BIAS)

Fig. 18

How to Fit Dial Cord For Radio

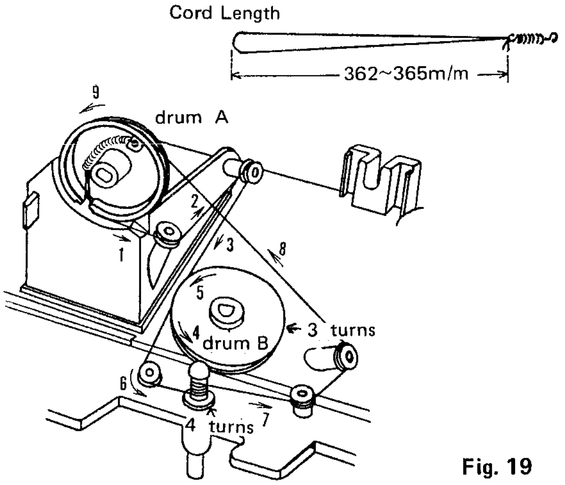

Cord Length
362~365m/m
9
drum A
2
1
3
8
5
4
drum B
3 turns
6
4 turns
7

Fig. 19

Cassette Mechanism Adjustment

1. Auto stop moving range adjustment

When moving the point of the detector cap within 0.5~1.8mm in the playback mode, the auto-stop mechanism should be operated.

If no operating, bend the portion Ⓐ of the detector plate to the direction shown by the arrow with a plier. (Fig. 20, 21)

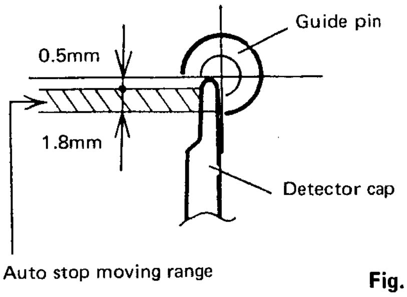

Guide pin
0.5mm
1.8mm
Detector cap
Auto stop moving range

Fig. 20

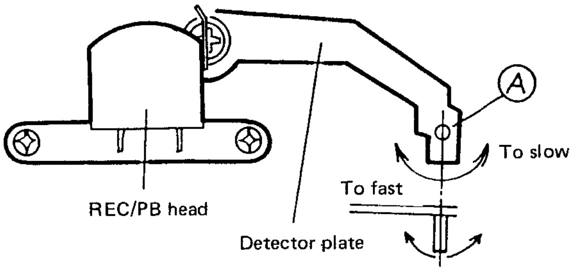

Ⓐ
To slow
To fast
REC/PB head
Detector plate

Fig. 21

2. Auto Stop Detection pressure Adjustment

Place the cassette mechanism Ass'y vertically and suspend the tension gauge on the point of the detector cap.
When pulling the tension gauge within 45~65g the auto-stop mechanism should be operated in the playback mode.
If no operating, bend the portion Ⓐ of the adjusting arm to the direction shown by the arrow with a pliar (Fig. 22, 23)

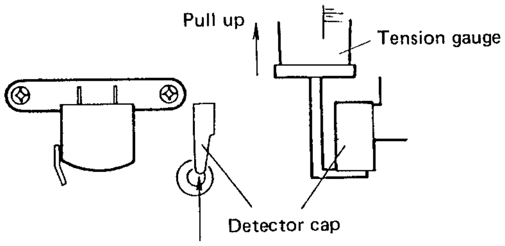


Fig. 22

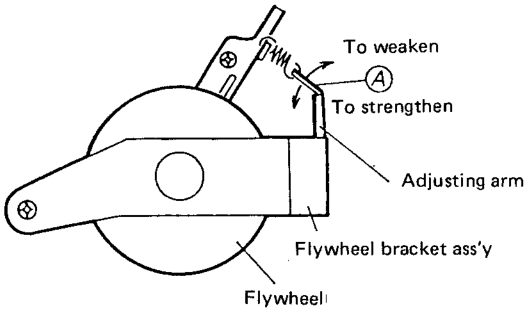


Fig. 23

3. Flywheel Thrust Adjustment

Loosen and adjust the adjusting screw to keep the clearance between the flywheel and the flywheel bracket within 0.2~0.4mm.
After the adjustment, apply lock paint to the adjusting screw. (Fig. 24)

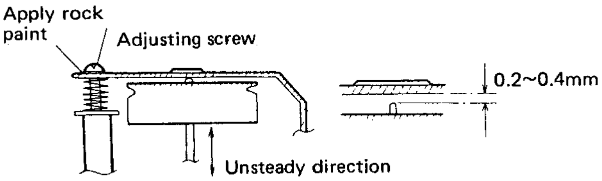


Fig. 24

4. Pause Operation & The Timing Check

1) Pause Operation & the Timing Check

In the playback mode, check that the running of the cassette tape is temporarily stopped when depressing the PAUSE button and then when pressing the PAUSE button again the button is unlocked, the playback mode is restored and the running of the cassette tape is restarted.

Note: Be sure to use a C-30 type cassette tape in this checking.

2) Pause Operation & the Timing Adjustment

a. Adjust the pinch arm lever to keep the clearance between the pinch roller and the capstan more than 0.5mm while depressing the PAUSE button.
Bend the portion Ⓒ of the pinch arm lever to the direction A in shorter clearance and the direction B in longer (Fig. 25).

b. Adjust the pinch arm lever by bending the portion Ⓒ to the direction A, if the rotation of reel disc is stopped or the cassette tape is pulled out from the cassetter by the pinch roller rotation while depressing the PAUSE button in the playing mode (Fig. 25).

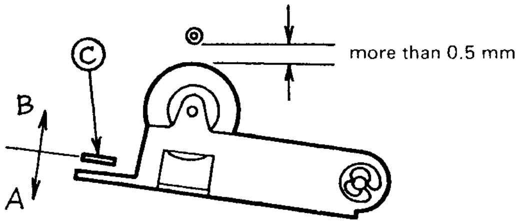


Fig. 25

5. Cue, Review Operations Check & Adjustment

1) Cue, review operation check

a. Check that the rotation of the pinch roller is stopped and then the rotation of rewind reel base is stopped, when depressing slowly the CUE button in the play mode.
Nextly check that the rotation of the rewind reel base is started and then the pinch roller is rotated, when unlocking the depressing of the cue button.

b. Check that the rotation of the pinch roller is stopped and then the rotation of the rewind reel base is stopped, when depressing slowly the Rewind button in the playback mode.
Nextly check that the rotation of the rewind reel base is started and then the pinch roller is rotated, when unlocking the depressing of the REVIEW button.
Note: If these operations are made in the contrary order, the cassette tape will be drawn out from cassetter and tangled to the pinch roller.

2) Review timing Adjustment

a. Bend the portion Ⓒ of the pinch arm lever to direction A if cassette tape is drawn out from the cassetter on starting of the review operation. (Fig. 25)

b. Bend the portion Ⓒ of the pinch arm lever to the direction B, if the mechanism is made in fast forward mode on starting of the review operation. (Fig. 25)

3) Cue timing Adjustment

a. Bend the portion Ⓒ of the pinch arm lever to the direction A, if the cassette tape is drawn out from the cassette on starting of the review operation.

b. Bend the portion Ⓒ of the pinch arm lever to the direction-B, if the mechanism is made in fast forward mode on starting of the cue operation.

* After making the Review and Cue timing adjustments, be sure to make "pause operation & the timing check" of the section 4.

* Check that the clearance between the pinch roller arm and the pinch arm lever is more than 0.2mm, when depressing the REVIEW button in the recording mode (Fig. 26.)

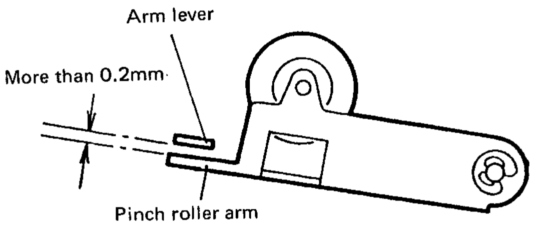

Arm lever
More than 0.2mm
Pinch roller arm

Fig. 26

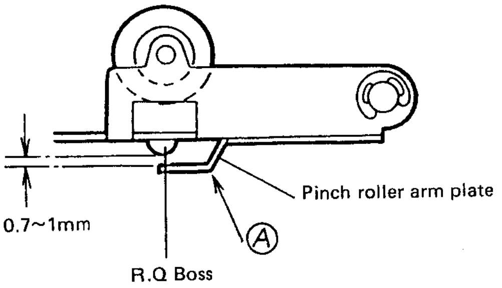

Pinch roller arm plate
0.7~1mm
Ⓐ
R.Q Boss

Fig. 27

* Bend the portion Ⓐ of the pinch roller arm to keep the clearance between the RQ boss and the pinch roller arm plate within 0.7~1mm. (Fig. 27)

6. Head Position Adjustment

Loosen 4 adjusting screws and then adjust the position of the REC/PB and erasing heads as shown in Fig. 28.

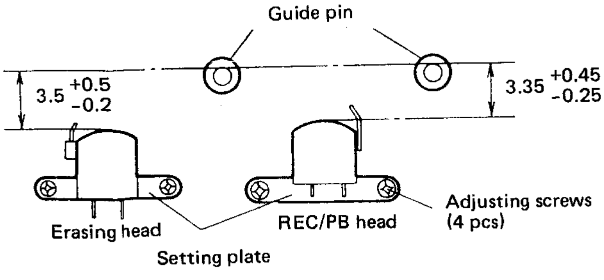

Guide pin
$3.5^{+0.5}_{-0.2}$
$3.35^{+0.45}_{-0.25}$
Adjusting screws (4 pcs)
Erasing head
REC/PB head
Setting plate

Fig. 28

7. Clearance adjustment between Recording slide lever and Recording safety lever

Bend the portion Ⓐ of the recording slide lever to keep the clearance between the recording slide lever and the recording safety lever within 0.5~0.8mm. (Fig. 29)
If the clearance is more than 0.8mm, the recorded cassette tape may be erased by operating of recording slide switch, when depressing the record button in the playback mode.

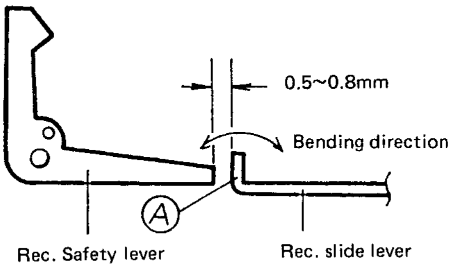

0.5~0.8mm
Bending direction
Ⓐ
Rec. Safety lever
Rec. slide lever

Fig. 29

8. Recording torque Adjustment

Adjust the playing torque within 40~70g-cm with the crutch plate. After cleaning the dirt on the rubber parts and the rotating portions, change the crutch spring plate to "3" position of the crutch pully in lighter torque, and to "1" position in heavier. (Fig. 30)

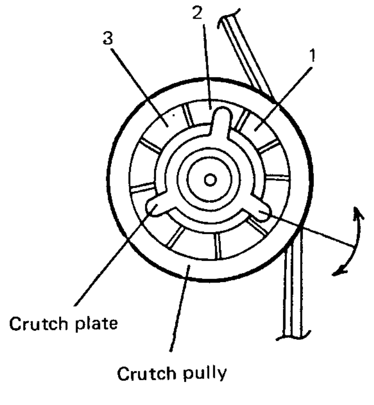

2
3
1
Crutch plate
Crutch pully

Fig. 30

9. FF & REWIND Torque Adjustment

1) FF Torque Adjustment

Depress the Cue button and then suspend the torque gauge on reel disc from "take up" side.
Check that the reading is more than 60g-cm, when pulling out the gauge. If lighter, bend the portion Ⓒ of the FF button lever located on reverse side of the chassis base to the direction A shown in Fig. 30.

2) REW Torque Adjustment

Depress the Review button and then suspend the torque gauge on reel disc from "supply" side.
Check that the reading is more than 60g-cm, when pulling out the gauge. If lighter, bend the portion Ⓓ of the REW button lever located on reverse side of the chassis base to the direction Ⓑ shown in Fig. 31.

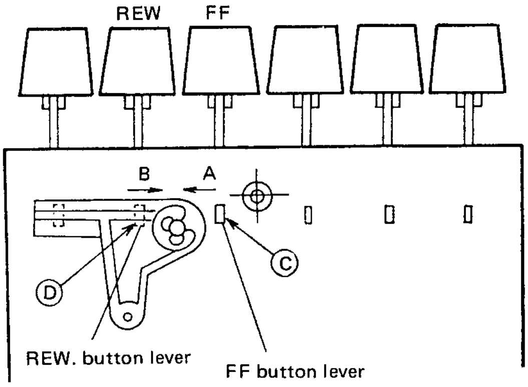


Fig. 31

Note: The Cue & Review mechanisms may be made inferior, if the levers are excessively bent in the adjustments above.

Heads Replacement & Adjustment

A. Heads Replacement

Replace the REC/PB and erasing heads if they are in wearing off, broken wires or too magnetized.
Unfasten 2 screws Ⓐ Ⓑ to replace the REC/PB head and 2 screws Ⓒ Ⓓ to replace the erasing head shown in Fig. 32. After replacing the heads, adjust the head position by refering to "head position adjustment" of the section 6.

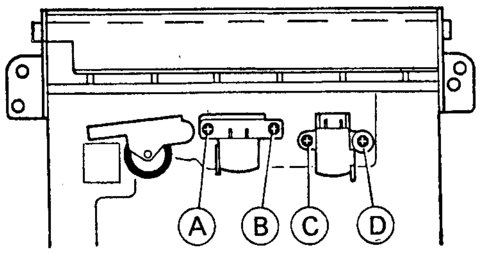


Fig. 32

B. Heads Angle Adjustment

After replacing the heads, be sure to make the head angle adjustment.

1. Connect a V.T.V.M. to the speaker terminals.
2. Make playing with the cassette tape for the head angle adjustment (Model VTT653 or VTT615) or the equality good.
3. Set the Tone (R222) and Volume (R223) control to center position.
4. Loosen the screw Ⓑ shown in Fig. 32 and adjust the screw so that the reading of V.T.V.M. is max.
5. After the adjusting apply lock paint to the screw Ⓑ.

Recording Bias Adjustment

1. Connect the mili-volt meter and the frequency counter between TP-901 (REC/PB head) and earth in the recording mode.
2. Depress the PLAY and RECORD buttons simultaneously.
3. Place the Beat Cut switch to "1" marked position.
4. Turn the oscillator transformer (T901) to tune to 48kHz.
5. Adjust the Bias control (R925) to obtain 7mV.
6. Repeat the step 4, 5.
7. Confirm that the oscillator frequency is less than 47kHz when the beat cut switch was reset to "2" marked position.

Servicing Guide

A. Deteriorating sound in playing

1. Check the REC/PB head if it is attached to dirt or dust.
2. Check the REC/PB head if it is weared off.
   If so, the response will be bad in high frequency range.
3. Check that the wirings are cut or all transistors are correctly operating.

B. Crash Sound in Recording

When you make playing the recorded Demo cassette tape, the tone quality is clear.
But when you make playing the cassette tape which recorded with normal blank tape, the tone quality is bad.
In this case check as following.

1. Make monitoring the recording sound with an earphone.
2. If bad on step 1, make the checking of the broken wirings and all the transistors.
3. If OK on step 2, make the checking of the recording bias oscillator circuit.

C. WOW-FLATTER

Check as following in increased wow and flatter.

Causes	Symptoms	Servicing
Capstan or Flywheel	• The capstan shaft deflection • Heavy rotation of the flywheel	• Replace the flywheel • Adjust the flywheel thrust • Oiling to or cleaning the flywheel
Pinch-roller	• Rough rotation • Inaccuracy angle for the capstan • Non-sticking pressure to the tape	• Replace the pinch-roller • Clean the pinch-roller • Make the pinch roller in parallel with the capstan • Replace or adjust the spring
Belt	• Dirty belt • Slipping belt	• Replace or clean the belt
Back-Tension	• Rough back-tension	• Replace or oil to the back-tension spring.
Motor	• The motor shaft deflection • The motor pully dirt • The pully swing	• Replace or clean the motor shaft • Replace the take-up idler ass'y

Chart 3

D. Rewinding Faults

Causes	Symptoms	Servicing
In the playback Mode	• Slipping between the take-up idler and the reel base • The take-up idler • Slipping between the take-up idler and the capstan belt	• Replace or adjust the take-up idler spring • Clean rubber portion of the reel base • Replace or clean the capstan belt
In the Cue Mode	• The FF idler slipping • The FF idler • The capstan belt slipping	• Clean rubber portion of the idler • Replace or adjust the spring • Replace the idler • Replace or clean the capstan belt
In the review Mode	• The REW idler or the FF idler slipping • The FF idler • Capstan belt slipping	• Clean rubber portion of the idler • Replace or adjust the spring • Replace the idler • Replace or clean the capstan belt

Chart 4

E. Noises

Causes	Symptoms	Servicing
Noises in the playback Mode	• Noises from the take-up idler • Noises from the rotating portions	• Replace the take-up idler • Lubricate to the rotating parts
Noises in the Cue or REW Mode	• Noises from the FF idler • Noise from the REW idler	• Lubricate or replace the idler
Motor Noises	• Noises from the motor	• Replace the motor

Chart 5

F. Cleaning

Be sure to clean the heads, capstan, pinch roller and other parts which come into contact with the tape with cotton stick in a little alcohol.

The dirty heads will deteriolate the sound quality and cannot erase.

G. Oiling

Make oiling 1~2 drops to the reel disc, pinch roller and rewind idler bealings 1~3 times in a year.

If oiling to too much, it will scatter the oil to the parts near and cause the rough rotating.

Mechanical Parts Diagram

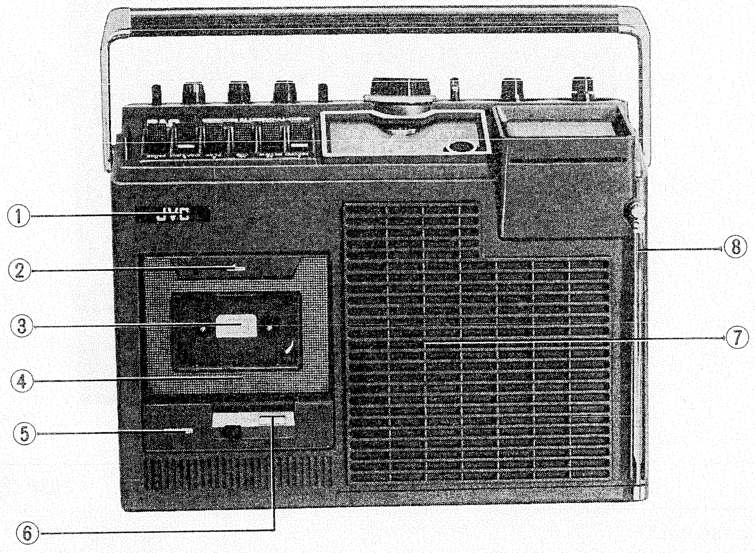


Fig. 33

No.	Parts Name	Parts No.	Q'ty
1	Mark	QXM2241-001	1
2	Door Plate (Black)	A45691-001	1
	Door Plate (Silver)	A45691-002	(1)
3	Reflection Label	A45551-002	1
4	Cassette Door Ass'y (Black)	A20867-00A	1
	Cassete Door Ass'y (Silver)	A20867-00B	(1)
5	Counter Plate (Black)	A45692-001	1
	Counter Plate (Silver)	A45692-002	(1)
6	Counter Lens	A45694-001	1
7	Front Panel (Black)	A10350-006	1
	Front Panel (Silver)	A10350-007	(1)
8	Rod Antenna	QZR4147-001U	1

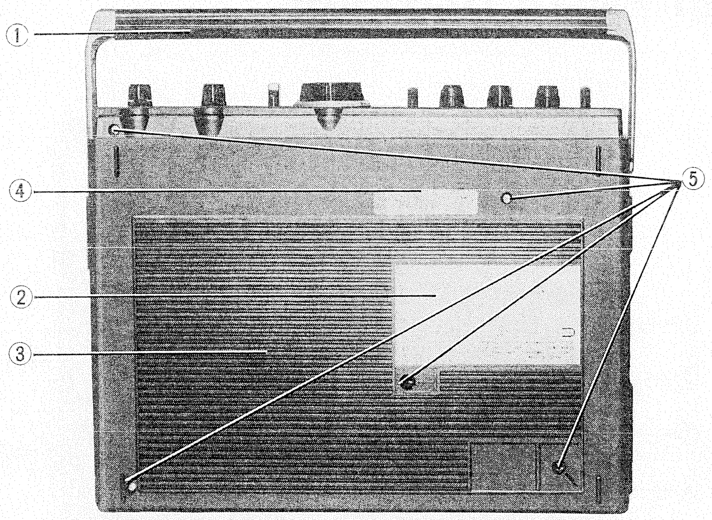


Fig. 34

No.	Parts Name	Parts No.	Q'ty
1	Handle Ass'y	A31982-00A	1
2	Rating Label	A31689-113	1
3	Rear Cover (Black)	A10351-001	1
	Rear Cover (Silver)	A10351-002	(1)
4	Label	A31694-092	1
5	Tap. Screw	SDSA3016R	5

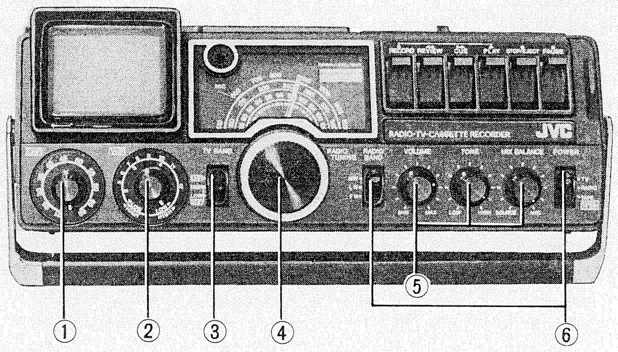


Fig. 35

No.	Parts Name	Parts No.	Q'ty
1-1	UHF Indicator Knob (Black)	A31967-001	1
	UHF Indicator Knob (Silver)	A31967-002	(1)
-2	UHF Knob (Black)	A31968-001	1
	UHF Knob (Silver)	A31968-002	(1)
2	VHF Knob (Black)	AXKM525-20031X	1
	VHF Knob (Silver)	AXKM525-20033X	(1)
3-1	Switch Knob (Black)	A45709-001	1
	Switch Knob (Silver)	A45709-002	(1)
-2	Switch Washer	A45718-002	1
4	Tuning Knob	AXKP250-2004A	1
5	Knob (Black)	AXKM520-20021	3
	Knob (Silver)	AXKM520-20023	(3)
6-1	Switch Knob (Black)	A45899-001	2
	Switch Knob (Silver)	A45899-002	(2)
-2	Switch Washer	A45718-001	2

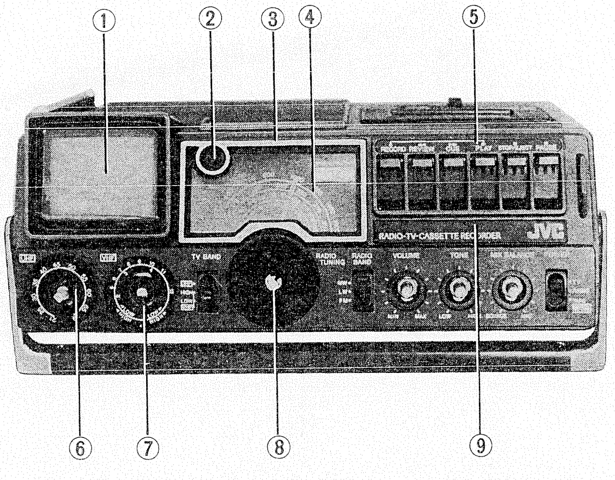


Fig. 36

No.	Parts Name	Parts No.	Q'ty
1-1	Protector Glass	A31854-001	1
-2	Spacer	A45780-001	1
2-1	EC MIC	A04369-101	1
-2	MIC Holder	V44859-001	1
3	Radio Plate	A31970-001	1
4	Glass	A31990-001	1
5	Cassette Plate	A45719-001	1
6	UHF Indicator Plate	A31977-002	1
7	VHF Indicator Plate	A31978-002	1
8	Washer	A45767-001	1
9	Cap (Black)	A31971-002	1
	Cap (Silver)	A31971-003	(1)

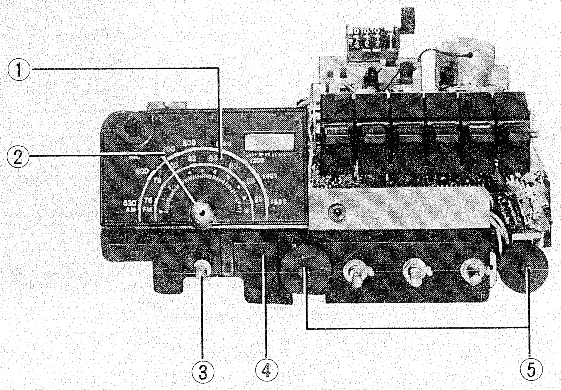


Fig. 37

No.	Parts Name	Parts No.	Q'ty
1	Radio Plate	A31980-002	1
2	Needle	A45698-001	1
3	Tuning Shaft	A45707-001	1
4	Tuning Holder	A20872-00A	1
5	Switch Washer	A45718-001	2

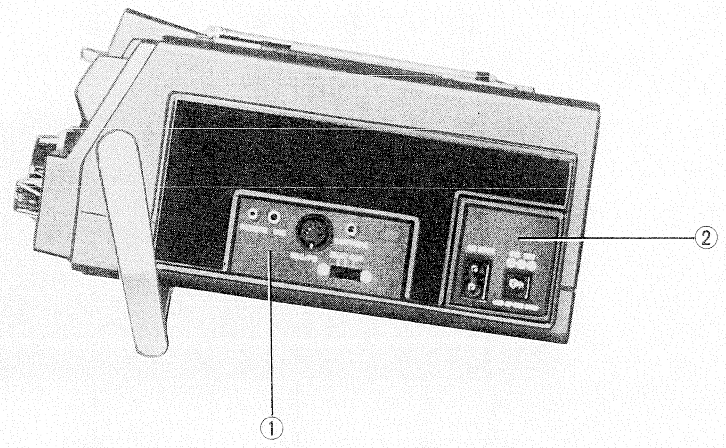


Fig. 38

No.	Parts Name	Parts No.	Q'ty
1	Jack Board Ass'y	A32048-00A	1
2	Power Plate	A45697-003	1

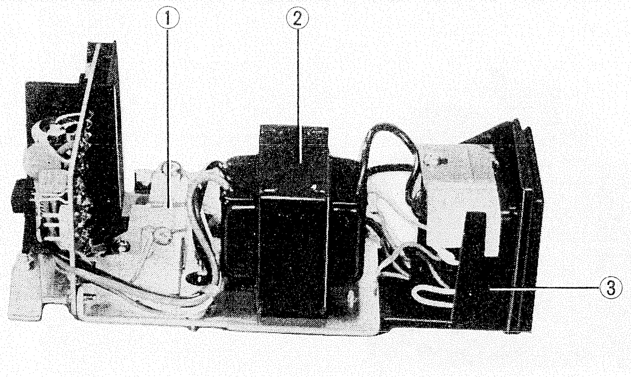


Fig. 39

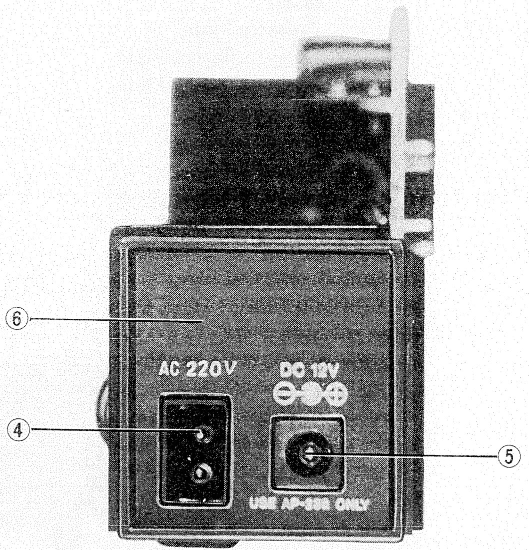


Fig. 40

No.	Parts Name	Parts No.	Q'ty
1	Power Trans.	A45740-00C	1
2	Unflammable Resistor	QRF208K-5R0	1
3	Holder	A20871-001	1
4	AC Socket Ass'y	QMC2063-001	1
5	Ext. Batt. Jack Ass'y	QMA1221-003	1
6	Power Plate	A45697-003	1

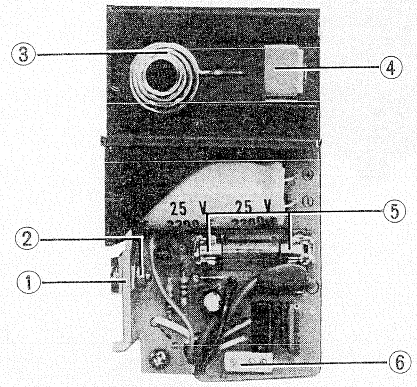


Fig. 41

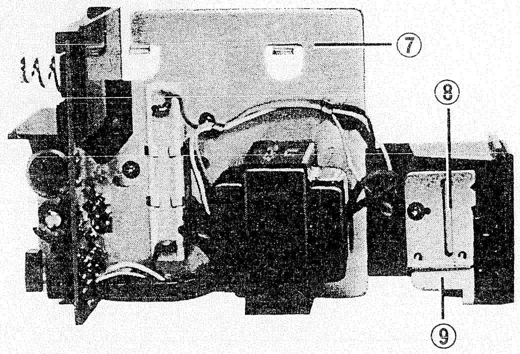


Fig. 42

No.	Parts Name	Parts No.	Q'ty
1-1	Washer	BUSH-F	1
-2	Spacer	IS-313	1
-3	Ass'y Screw	LPSP3010ZS	1
2-1	Washer	WNS3000Z	1
-2	Nut	NNZ3000ZS	1
3	Contact Spring	A45513-001	1
4	Batt. Plate	A45514-001	1
5	Fuse Clip	A44594-001	2
6	Plug Ass'y	QMC0327-001	1
7	Heat Sink	A31976-001	1
8	Switch Bracket	A45710-001	1
9	Cap Ass'y	V44399-00C	1

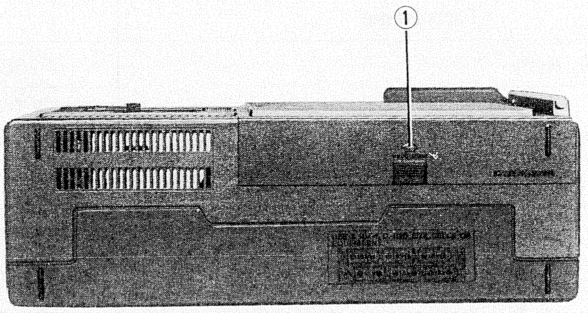


Fig. 43

No.	Parts Name	Parts No.	Q'ty
1	Battery Cover (Black) Battery Cover (Silver)	A31966-00A A31966-00B	1 (1)

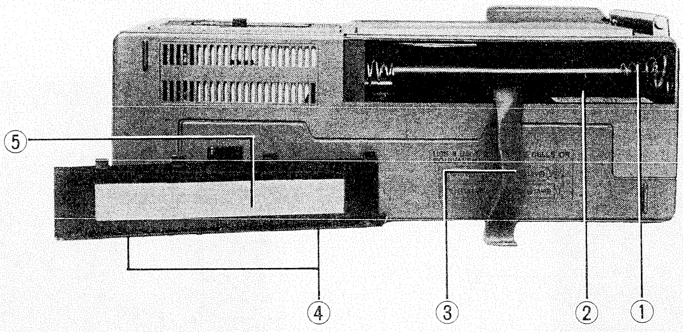


Fig. 44

No.	Parts Name	Parts No.	Q'ty
1	Contact Spring	A45714-001	1
2	Label	A31694-091	1
3	Ribbon	A45555-002	1
4	Stick Sheet	A41545-083	2
5	Cushion	A41455-043	1

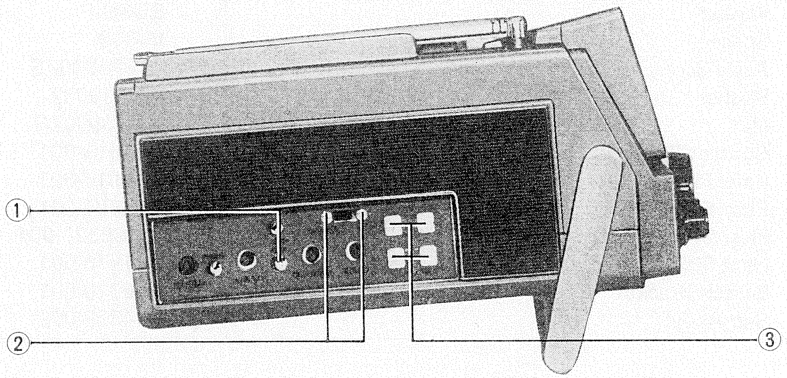


Fig. 45

No.	Parts Name	Parts No.	Q'ty
1	Ant. Ter. Ass'y	A20873-00A	1
2	Screw	SDSP2606R	2
3	Screw	(Screwed to Ant. Ter. Ass'y)	

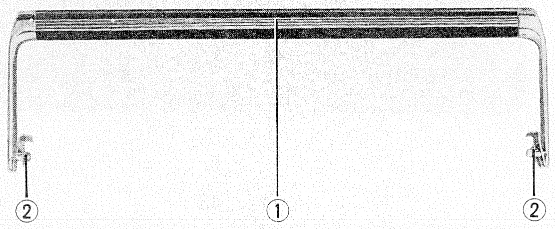


Fig. 46

No.	Parts Name	Parts No.	Q'ty
1	Handle Ass'y	A31982-00A	1
2-1	Washer	A45784-001	2
-2	E Washer	REE3000	2
-3	Handle Spring	A45716-001	2

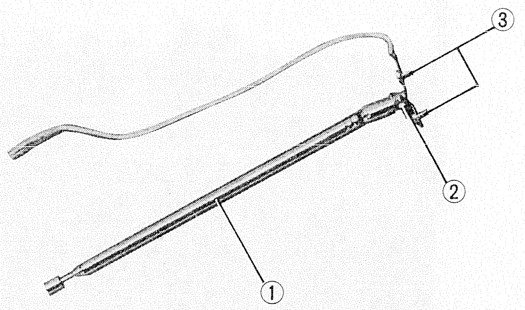


Fig. 47

No.	Parts Name	Parts No.	Q'ty
1	Rod Antenna	QZR4147-001U	1
2-1	E Washer	REE6000	1
-2	Antenna Spring	A45713-001	1
-3	Ass'y Screw	LPSP2610Z	1
-4	Nut	NNZ2600Z	1
3	Tap. Screw	SDSA3008Z	2

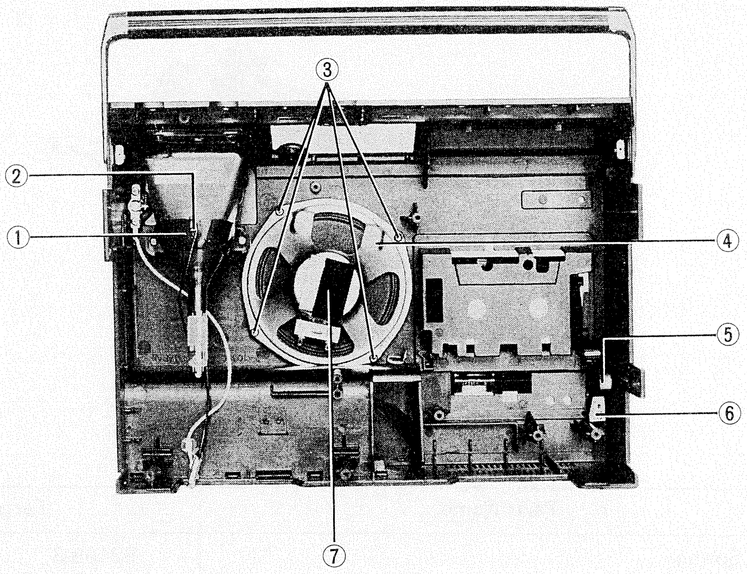


Fig. 48

No.	Parts Name	Parts No.	Q'ty
1	CRT Holder	A31969-001	1
2	Earth Plate	A45715-001	1
3	Tap. Screw	SDSA3008Z	4
4	Speaker	SK2030HM	1
5	Door Spring	A45711-001	1
6	Tap. Screw	SDSA3008Z	1
7	Stick Sheet	A41545-075	1

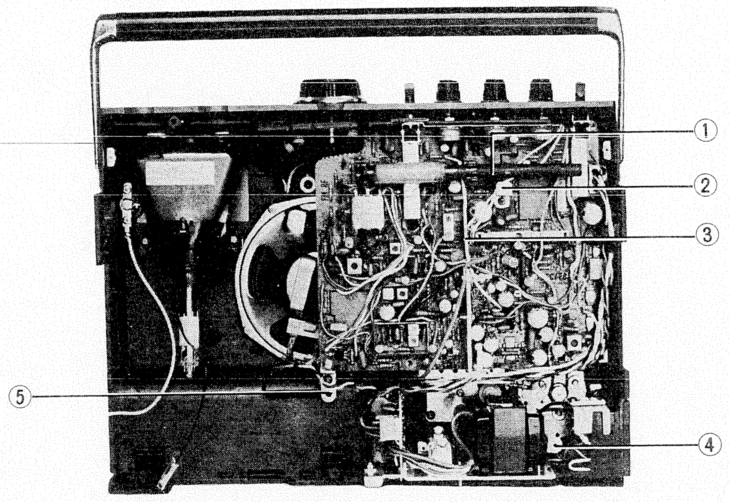


Fig. 49

No.	Parts Name	Parts No.	Q'ty
1	Antenna Holder	A45727-001	2
2	Frame	A45720-001	1
3	Record Spring	A45741-001	1
4	Frame	A45696-001	1
5	Frame	A45695-001	1

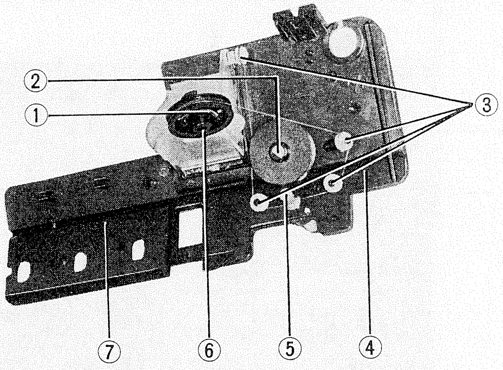


Fig. 50

No.	Parts Name	Parts No.	Q'ty
1	Spring	53498-3	1
2-1	Dial Drum	A45708-001	1
-2	Dial Shaft	A45699-001	1
-3	E Washer	REE4000	1
3-1	Roller	V40409-3	5
-2	S. Washer	V42562-1	5
4	Dial Cord	A45773-001	1
5-1	Tuning Shaft	A45707-001	1
-2	E Washer	REE4000	1
6-1	Dial Drum	A31986-001	1
-2	T. Lock Washer	WBS2600W	1
-3	Screw	SPSP2608Z	1
7	Tuning Holder	A20872-00A	1

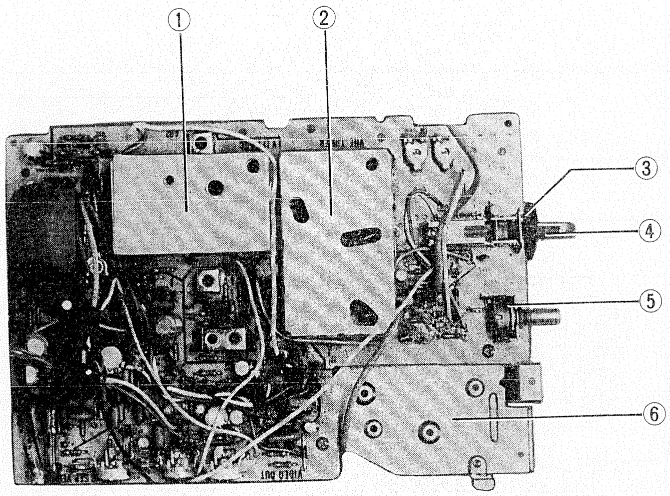


Fig. 51

No.	Parts Name	Parts No.	Q'ty
1-1	Shield Case	A45387-001	1
-2	Shield Cover	A45388-002	1
2-1	Shield Case	A45259-002	1
-2	Shield Cover	A45260-004	1
3	Switch Washer	A45718-002	1
4	Switch Knob	A45709-001	1
5	Volume Bracket	A45763-001	1
6	Tuner Bracket	A31979-001	1

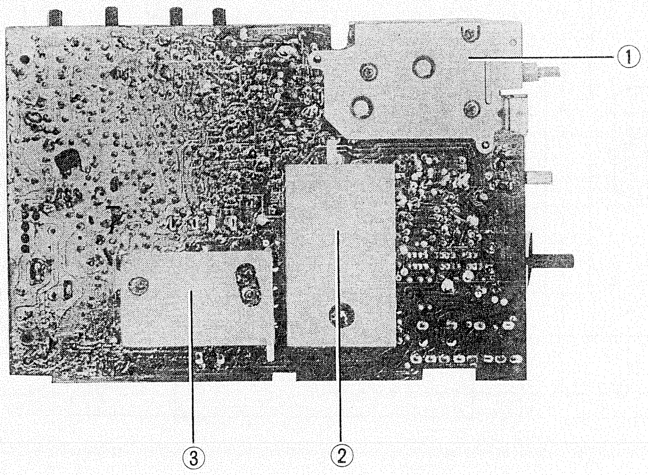


Fig. 52

No.	Parts Name	Parts No.	Q'ty
1	Tuner Bracket	A31979-001	1
2	Shield Plate	A45261-004	1
3	Shield Plate	A45389-003	1

Block Diagram

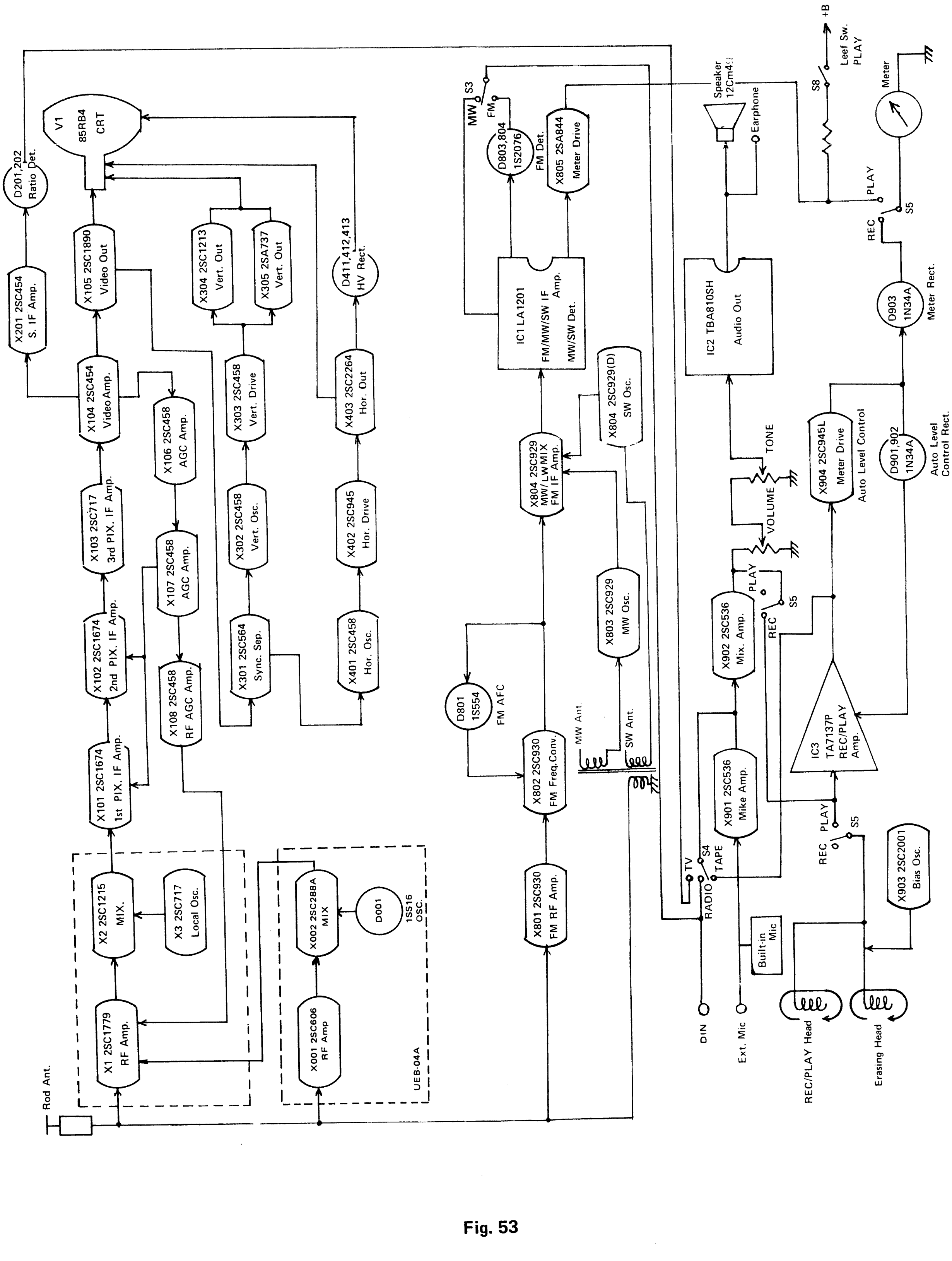

Rod Ant.
X1 2SC1779 RF Amp.
X2 2SC1215 MIX.
X3 2SC717 Local Osc.
X101 2SC1674 1st PIX. IF Amp.
X102 2SC1674 2nd PIX. IF Amp.
X103 2SC717 3rd PIX. IF Amp.
X104 2SC454 Video Amp.
X105 2SC1890 Video Out
X106 2SC458 AGC Amp.
X107 2SC458 AGC Amp.
X108 2SC458 RF AGC Amp.
X201 2SC454 S. IF Amp.
D201,202 Ratio Det.
V1 85RB4 CRT
X301 2SC564 Sync. Sep.
X302 2SC458 Vert. Osc.
X303 2SC458 Vert. Drive
X304 2SC1213 Vert. Out
X305 2SA737 Vert. Out
X401 2SC458 Hor. Osc.
X402 2SC945 Hor. Drive
X403 2SC2264 Hor. Out
D411,412,413 HV Rect.
X001 2SC606 RF Amp
X002 2SC288A MIX
D001 1S516 OSC.
UEB-04A
X801 2SC930 FM RF Amp.
X802 2SC930 FM Freq.Conv.
D801 1S554 FM AFC
X803 2SC929 MW Osc.
X804 2SC929 MW/LW MIX FM IF Amp.
X804 2SC929(D) SW Osc.
MW Ant.
SW Ant.
IC1 LA1201 FM/MW/SW IF Amp. MW/SW Det.
D803,804 1S2076 FM Det.
X805 2SA844 Meter Drive
MW
S3
FM
TV
S4
TAPE
RADIO
DIN
Ext. Mic
Built-in Mic
X901 2SC536 Mike Amp.
X902 2SC536 Mix. Amp.
PLAY
S5
REC
VOLUME
TONE
IC2 TBA810SH Audio Out
Speaker 12Cm4Ω
Earphone
IC3 TA7137P REC/PLAY Amp.
X903 2SC2001 Bias Osc.
REC/PLAY Head
Erasing Head
X904 2SC945L Meter Drive Auto Level Control
D901,902 1N34A Auto Level Control Rect.
D903 1N34A Meter Rect.
Meter
S8
Leef Sw. PLAY
+B

Fig. 53

Electronic Parts List For TV.

Symbol No.	Parts No.	Description
	Transistors	
X1	2SC1779-A	RF Amp.
X2	2SC1730	Mixer
X3	2SC1730	VHF OSC.
X101	2SC1674(L,M)	1st. Pix. IF. Amp.
X102	2SC1674(L,M)	2nd. Pix. IF. Amp.
X103	2SC717	3rd. Pix. IF. Amp.
X104	2SC454(C)	Video Amp.
X105	2SC1890(E)	Video Output
X106	2SC458(C)	AGC Amp.
X107	2SC458(C)	AGC Amp.
X108	2SC458(C)	RF. AGC Amp.
X201	2SC454(C)	S. IF. Amp.
X301	2SA564(Q)	Sync. Sep.
X302	2SC458(C)	Vert. OSC.
X303	2SC458(C)	Vert. Drive
X304	2SC1213(C) } pair	Vert. Output
X305	2SA673(C)	Vert. Output
X306	2SC945L(P,Q)	CRT Protector
X401	2SC458(C)	Hor. OSC.
X402	2SC458(C)	Hor. Drive
X403	2SC2264(Q)	Hor. Output
X501	2SD313E	Voltage reg.
X502	2SC945L(P,Q)	Voltage Drive
	Diodes	
D1,2,3,5,6,8, 12,14	1S2222	Band Switch Diode
D4,7,9	MA320G2V	Variable Capacitance Diode
D10	1S2076V	Diode
D11	A04344-026	Zener Diode
D13	1S2076V	Band Switch Diode
D101	1N60TF1	Diode
D102,103	HV23GBLV	Diode
D201,202	1N60TF1	Diode (Pair)
D301,304,401, 402,403,405, 406	1N34ATF1	Diode
D302,303	DS430	Diode
D404,410	10E2(V)	Silicon Power Diode
D407,408,409	RH1ALF	Silicon Power Diode
D501,502	S2VC20(V)	Si. Diode Stack
D503	RD11EB-2	Zener Diode
	CRT	
V1	85RB4	Picture Tube
	Coils & Transformers	
L1	A44900-13-1	RF. Coil
L2	A44900-47-1	RF. Coil
L3	A44900-11-2	RF. Coil
L4	A44899-5-5	RF. Coil
L5	A44899-3-1	RF. Coil
L6	A04725-5.6	Peaking Coil
L7,11	A44900-5-1	RF. Coil
L8	A44900-47-1	RF. Coil
L9	A44900-25-1	RF. Coil
L12	A44900-9-2	RF. Coil
L101	A45742-00B	S. Trap Coil Ass'y
L102	A45412-00B	2nd. Pix. IF. Coil
L103	A04725-15	Peaking Coil
L104	A04872-82	Peaking Coil
L105	A04725-6.8	Peaking Coil
L301,302,404, 405	A31985-00A	Def. Yoke Ass'y
L401	A44897-00C	Hor. Osc. Coil Ass'y
L402	A45384-101	Choke Coil
L403	A04368-001	Linearity Coil

Symbol No.	Parts No.	Description	
T1	A45427-00A	Matching Trans. Ass'y	
T2	A45379-00C	Conv. Trans. Ass'y	
T101(C102)	A45380-00B	1st. Pix. IF. Trans. Ass'y	
T102(C116)	A45381-00C	3rd. Pix. IF. Trans. Ass'y	
T201(C202)	A45382-00B	Sound IF. Trans. Ass'y	
T202,203 (C206)	A31101-B	Ratio Trans. Ass'y	
T401	A31984-00A	HV Trans. Ass'y	
T501	A45740-00C	Power Trans. Ass'y	
	Variable Resistors		
R28	QVP5A0B-054	Sub-Tuning	50kΩB
R29	QVG4A2B-015F	Tuning	100kΩB
R31	QVP5A0B-024	Sub-Tuning	20kΩB
R137	QVP5A0B-053	AGC	5kΩB
R148	QVF6A2C-013	Contrast	1kΩC
R155	QVF6A2B-025	Bright	200kΩB
R308	QVF6A2B-025	V. Hold	200kΩB
R317	QVP2A0B-014	V. Height	10kΩB
R318	QVP2A0B-053	V. Lin	5kΩB
R421	QVP5A0B-026E	Focus	2MB
	Resistors (Power & Special)		
R32	A04292-105	Negative Thermistor	
R321	A04292-104	Negative Thermistor	
R409	A04292-107	Negative Thermistor	
R502	QRF208K-5R0	Unflammable Resistor	
	Electrolytic Capacitors		
C39,302,407	QEW61HA-105Z	1μF	50WV
C41,405	QEW61EA-335Z	3.3μF	25WV
C107	QEW61AA-227	220μF	10WV
C132	QEW61EA-475Z	4.7μF	25WV
C133	QEW61EA-475	4.7μF	25WV
C136	QEW61AA-107	100μF	10WV
C214,308,413, 422	QEW61CA-106Z	10μF	16WV
C306,316	QEW60JA-477	470μF	6.3WV
C307	QEE51AK-106	10μF	10WV
C309	QEW61HA-474Z	0.47μF	50WV
C311,317	QEW61AA-336Z	33μF	10WV
C313	QEW61CA-106	10μF	16WV
C411	QEW60JA-227	220μF	6.3WV
C417	QEW61HA-476	47μF	50WV
C418	QEW61AA-108	1000μF	10WV
C419	QEW40JA-477	470μF	6.3WV
C421	QEW60JA-228	2200μF	6.3WV
C426	QEW61JA-105Z	1μF	63WV
C504	QEW41EA-228	2200μF	25WV
C505	QEW61CA-227	220μF	16WV
C601	QEW41CA-106	10μF	16WV
	Capacitors		
C415	QFP32XK-103	Polypropylene Capacitor	
C416	QFP32XK-332	Polypropylene Capacitor	
	C.R. Blocks		
CR1	A03008-016	C13,R8	
CR2	A03008-013	C26,R18	
CR3	A03008-013	C106,R105	
CR4	A03008-013	C112,R107	
CR5	A03008-018	C211,212,213,R211,212	
CR8	A03008-006	C502,503	
	Speaker		
	SK-2030HM	4Ω 12cm	

Symbol No.	Parts No.	Description
Sockets & Plug (Connector)		
J1	QMC0557-001	Socket Ass'y
J9, S9	QMC2063-001	AC Socket Ass'y
J10, S10	QMA1221-003	Ext. Batt. Jack Ass'y
V1	A31989-00A	CRT Socket Ass'y
P3	QMC0327-001	Plug Ass'y
P4	A41267-B	Plug Ass'y
P9	QMP3950-183	Power Cord with Plug
Switch		
S1	QSL4310-011	Lever Switch

Symbol No.	Parts No.	Description
S2	QSS4216-001	Slide Switch
S11	DSP2210-061	Push Switch
Miscellaneous		
CF1	A04306-B	Ceramic Filter
FUSE 1	QMF51A2-R20P	250V T200mA
FUSE 2	QMF51A2-1R6	250V T1.6A
	QZR4147-001U	Rod Antenna
	UEB-04A	UHF Tuner
	A45820-001	Fuse Cover
	QMP3950-183	Power Cord with Plug

Electronic Parts List For Radio

Symbol No.	Parts No.	Description
Transistors		
X503	2SA738(C)	Voltage Reg.
X504	2SA844(C,D)	Voltage Drive
X505	2SC945L(P,Q)	Error Amp.
X801	2SC930(E)	FM RF Amp.
X802	2SC930(E)	FM Conv
X803	2SC929(D)	MW Osc.
X804	2SC929(D)	MW/LW Mix-FM IF Amp.
X805	2SA844(C)	Meter Drive
X806	2SC929(D)	LW Osc.
X901	2SC536(F) AUD	Mic Amp.
X902	2SC536(F) AUD	Mix Amp.
X903	2SC2001(K,L)	Bias Osc.
X904	2SC945L(Q)	Meter ALC Amp.
X905	2SC945L(Q)	Pre. Amp.
ICs		
IC1	LA1201	FM/MW/LW IF Amp. MW/LW Det
IC2	TBA810SH	Audio Out
IC3	TA7137P(B,C)	Rec/PB Amp.
Diodes		
D504,809,901, 903	1N34ATF1	Diode
D505	HZ4AV	Zener Diode
D506	10E2(V)	Silicon Power Diode
D507,803,804, 810,902	1S2076V	Diode
D801	1S554	Variable Capacitance Diode
D802,805,806	1S188FM	Diode
D807,808	1S188AM	Diode
Coil & Transformers		
L201,202	A04359-100	Choke Coil
L501	T41572-001	Choke Coil
L801	A45638-00A	RF Coil (FM)
L802	03226-1L	Inductor
L803	A45663-001	OSC. Coil (FM)
L901	03226-17	Inductor
L902	A04725-470	Peaking Coil
T801(C815)	VQT7F12-102	IF Trans. (FM)
T802	VQM1T03-201	OSC. Coil (MW)
T805(C849)	VQT7F11-202	IF Trans.
T806(C850)	V03067-25	IF Trans.

Symbol No.	Parts No.	Description	
T807(C854)	VQT7F15-502	IF Trans.	
T808(C855)	VQT7F16-602	IF Trans.	
T809	V03101-025	OSC. Coil (SW)	
T810,811	A31956-00A	Bar Ant. Ass'y	
T901	A45738-00A	Bias Osc. Trans. Ass'y	
Variable Resistors			
R222	QVG5A2A-014F	Tone	10kΩA
R223	QVG5A2A-014F	Vol	10kΩA
R515	QVP2A0B-013	5.9V Adj.	1kΩB
R838	QVP2A0B-054	IC Bias	50kΩB
R908	QVG5A2W-024F	Mix	20KW
R925	QVP2A0B-054	Bias	50kΩB
Electrolytic Capacitors			
C223,909	QEW61HA-474Z	0.47μF	50WV
C225,837,917	QEW61AA-107	100μF	10WV
C226	QEW61CA-227	220μF	16WV
C228,910	QEW61AA-108	1000μF	10WV
C229	QEW60JA-227	220μF	6 3WV
C233,927	QEW60JA-477	470μF	6.3WV
C512,860,908, 923,931,935, 936,937,940, 941	QEW61CA-106Z	10μF	16WV
C515,844,858, 863,873,902, 907	QEW61EA-335Z	3.3μF	25WV
C517,842	QEW61AA-227	220μF	10WV
C836	QEW61AA-107Z	100μF	10WV
C843,877	QEW61CA-106	10μF	16WV
C874	QEW61AA-476	47μF	10WV
C891,913	QEW61HA-105	1μF	50WV
C901,925	QEW61AA-336Z	33μF	10WV
C903	QEW61HA-105Z	1μF	50WV
C928	QEW61AA-476Z	47μF	10WV
Capacitors			
C802,803,811, 812,820,821, 869,881	QAP1224-504	Variable Capacitor	
C825,884	QAT2002-001	Trimmer Capacitor	
C883	QFS21HJ-332	Polystyrol Capacitor	
C.R. Blocks			
CR6	03126-15	C861,862,R841	
CR7	A03008-020	C856,857,R835,836	

Symbol No.	Parts No.	Description
Filters		
CF2(C833,834, T803,804)	V03067-026	Ceramic Filter (SW/MW)
CF3	V03059-7	Ceramic Filter
BPF-2	A45437-00A	Band Pass Filter
Switch		
S3	QSL8300-001	Lever Switch
S4	QSL6300-001	Lever Switch
S5	QSS9201-001	Slide Switch
S11	QSP2210-061	Push Switch

Symbol No.	Parts No.	Description
Sockets & Jacks		
J3	QMC0357-001	Socket Ass'y
J5,6,8, S6,7	A32048-00B	Jack Board Ass'y
J7	QMC9014-006	DIN Socket
P1	QMC0527-001	Plug
P2	QMC0427-001	Plug
Miscellaneous		
	A04369-101	E.C. MIC
	A45739-00A	Meter
	V04041-1	Test Point

Accessories

	Q'ty
Power Cord with Plug	1
Car Battery Cord (Model AP-23E)	1
Earphone	1
Head Cleaner	2
Short Plug	1
Cassette Tape	1
Schematic Diagram	1
Instruction Book	1

Packing

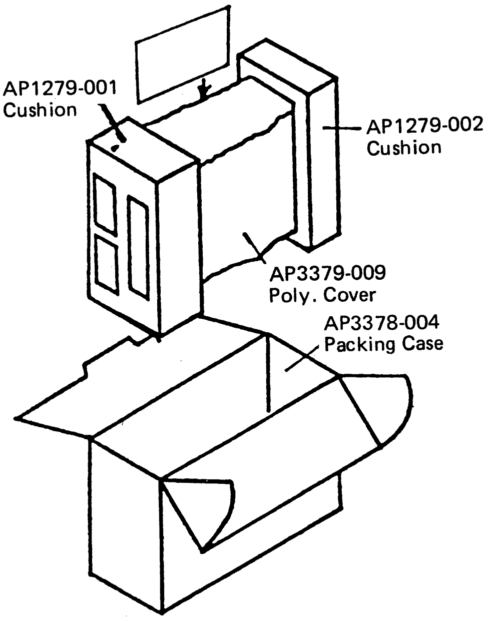

AP1279-001
Cushion
AP1279-002
Cushion
AP3379-009
Poly. Cover
AP3378-004
Packing Case

Fig. 54

TELEVISION SCHEMATIC DIAGRAM FOR MODEL 3070EUS

NOTE

1. ALL VOLTAGES MEASURED WITH CIRCUIT TESTER (20KΩ/V) ON NORMAL RECEPTION.

SECTION		MODE
RADIO	( )	MW OR SW
	OTHERS	FM
AMP	( )	REC
	OTHERS	PB

SEE NOTE 5 FOR THOSE AT DIODES IN TUNER.

2. ALIGNMENT ━━━━ SHOWS USER CONTROL
——— SHOWS SERVICEMAN CONTROL

3. ALL RESISTANCE VALUES ARE IN OHMS.
K : 1,000 M : 1,000,000

UNSPECIFIED :	CARBON RESISTOR	±5%	1/4W
COMP :	COMPOSITION RESISTOR	±10%	1/2W
MFR :	METAL FILM RESISTOR	±5%	1/2W
UFR :	UNFLAMMABLE RESISTOR	±10%	
TH-N :	NEGATIVE THERMISTOR		

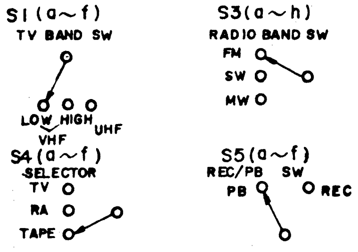
4. ALL CAPACITANCE VALUES LESS THAN 1 ARE IN µF AND ABOVE 1 ARE IN PF UNLESS OTHERWISE INDICATED

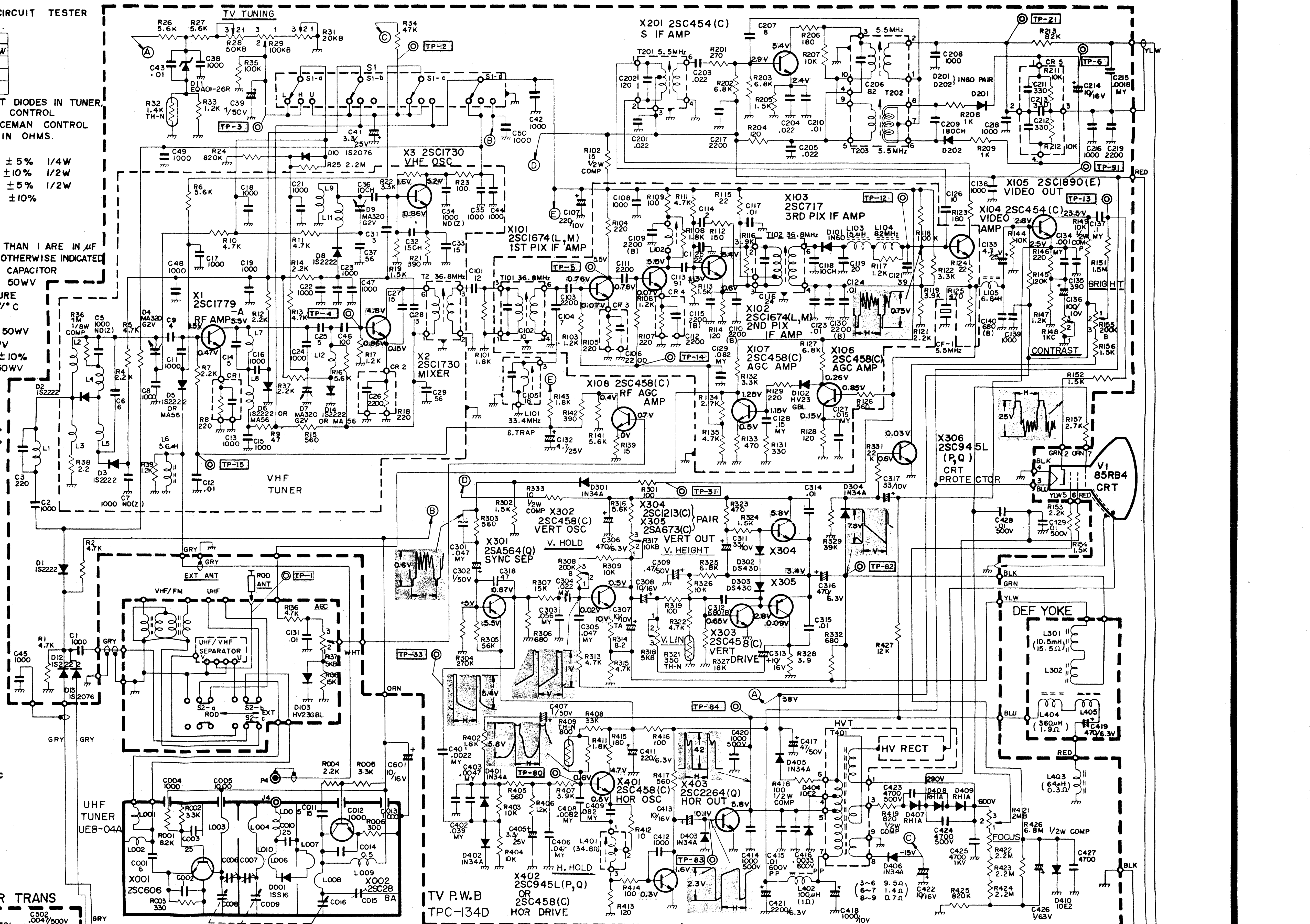
UNSPECIFIED CAPACITOR : CERAMIC CAPACITOR ±5% 50WV
CH : TOLERANCE FOR TEMPERATURE COEFFICIENT IS 60X10^{-6}/°C
ND : NUDE CERAMIC CAPACITOR ±5% 50WV
ABOVE 1000PF $^{+80}_{-20}$% 50WV
P.P. : POLYPROPYLENE CAPACITOR ±10%
MY : MYLAR CAPACITOR ±10% 50WV
PS : POLYSTYROL CAPACITOR ±5% 50WV
TA : TANTAL ELECT. CAPACITOR ±20%
B : THERMAL DEVIATION ±10%
ELECTROLYTIC CAPACITOR : $^{+50}_{-10}$%
CAPACITANCE (µF) / RATING VOLTAGE (V)
UNDER 4.7µF : $^{+75}_{-10}$%

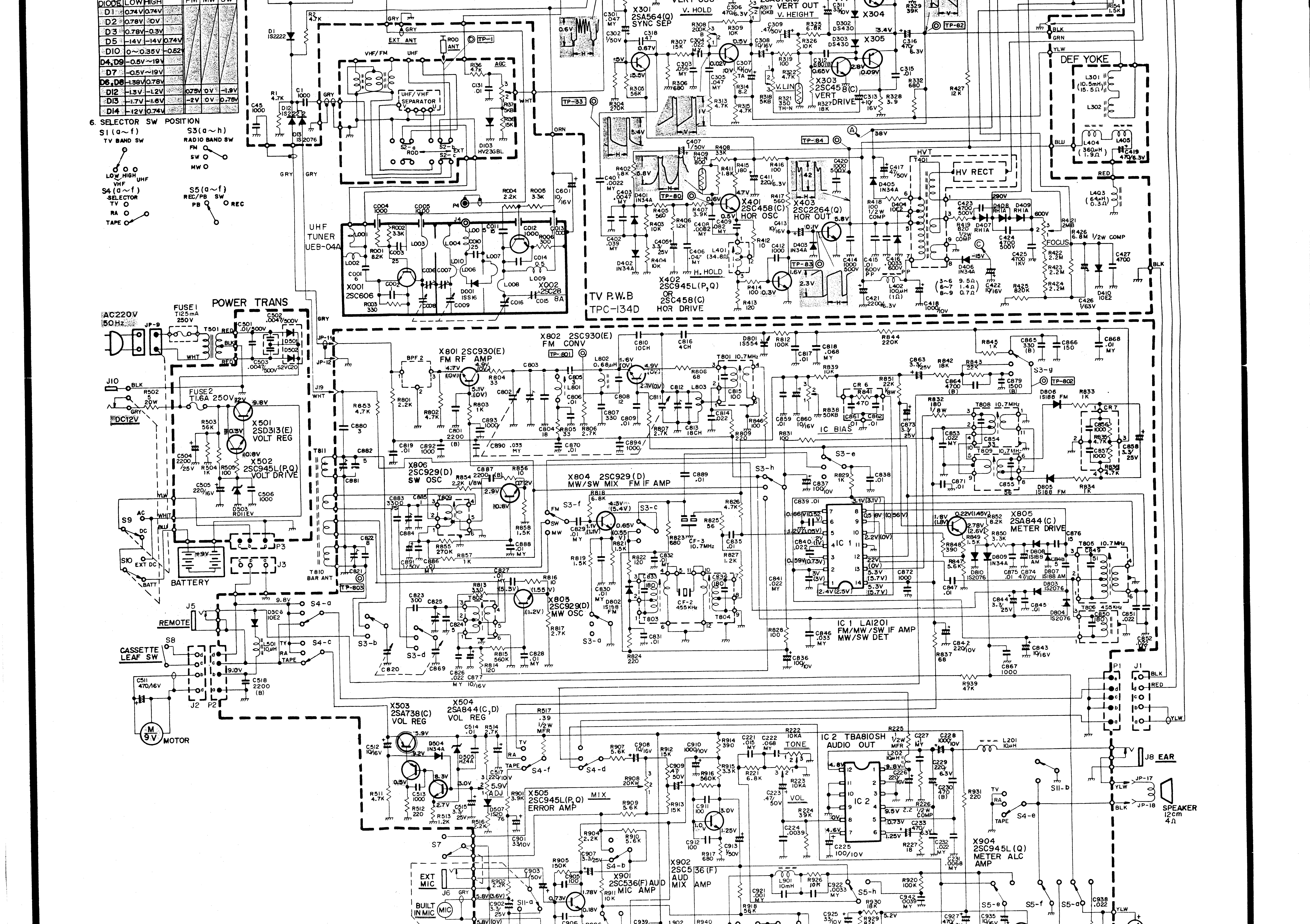
5. VOLTAGES AT DIODES IN TUNER (0V AT CATHODE)

DIODE \ BAND	VHF LOW	VHF HIGH	UHF	RA FM	RA MW	RA SW
D1	0.74V	0.74V				
D2	0.78V	0V				
D3	0.78V	-0.3V				
D5	-14V	-14V	0.74V			
D10	0~0.35V		-0.52V			
D4, D9	-0.5V~19V					
D7	-0.5V~19V					
D6, D8	-1.38V	0.78V				
D12	-1.3V	-1.2V		0.75V	0V	-1.9V
D13	-1.7V	-1.6V		-2V	0V	0.75V
D14	-12V	0.74V				

6. SELECTOR SW POSITION


S1 (a~f)
TV BAND SW
LOW
HIGH
VHF
UHF
S3 (a~h)
RADIO BAND SW
FM
SW
MW
S4 (a~f)
SELECTOR
TV
RA
TAPE
S5 (a~f)
REC/PB SW
PB
REC


TV TUNING
VHF TUNER
X1 2SC1779-A RF AMP
X2 2SC1730 MIXER
X3 2SC1730 VHF OSC
S1
TP-1
TP-2
TP-3
TP-4
TP-5
TP-6
TP-12
TP-13
TP-14
TP-15
TP-21
TP-31
TP-33
TP-62
TP-80
TP-83
TP-84
TP-91
X101 2SC1674(L,M) 1ST PIX IF AMP
X102 2SC1674(L,M) 2ND PIX IF AMP
X103 2SC717 3RD PIX IF AMP
X104 2SC454(C) VIDEO AMP
X105 2SC1890(E) VIDEO OUT
X106 2SC458(C) AGC AMP
X107 2SC458(C) AGC AMP
X108 2SC458(C) RF AGC AMP
X201 2SC454(C) S IF AMP
T201 5.5MHz
T202
T203 5.5MHz
D201 D202 IN60 PAIR
BRIGHT
CONTRAST
X301 2SA564(Q) SYNC SEP
X302 2SC458(C) VERT OSC
X303 2SC458(C) VERT DRIVE
X304 2SC1213(C) PAIR
X305 2SA673(C) VERT OUT
V. HOLD
V. HEIGHT
V. LIN
X306 2SC945L (P,Q) CRT PROTECTOR
V1 85RB4 CRT
DEF YOKE
L301 (10.5mH) (15.5Ω)
L302
L404 360µH 1.9Ω
L405
L403 (64µH) 0.3Ω
X401 2SC458(C) HOR OSC
X402 2SC945L(P,Q) OR 2SC458(C) HOR DRIVE
X403 2SC2264(Q) HOR OUT
H. HOLD
HVT T401
HV RECT
FOCUS
UHF TUNER UEB-04A
X001 2SC606
X002 2SC28 8A
EXT ANT
ROD ANT
VHF/FM
UHF
UHF/VHF SEPARATOR
AGC
TV P.W.B TPC-134D
POWER TRANS
FUSE1 T125mA 250V
AC220V 50Hz
YLW
RED
BLK
GRN
BLU
GRY
ORN
WHT



UHF TUNER
UEB-04A
X001 2SC606
X002 2SC28 8A
UHF/VHF SEPARATOR
EXT ANT
ROD ANT
VHF/FM
UHF
AGC
D103 HV23GBL
TP-1
TV P.W.B
TPC-134D
X301 2SA564(Q) SYNC SEP
V. HOLD
V. HEIGHT
VERT OUT
V. LIN
X303 2SC458(C) VERT DRIVE
X304
X305
X401 2SC458(C) HOR OSC
X402 2SC945L(P,Q) OR 2SC458(C) HOR DRIVE
X403 2SC2264(Q) HOR OUT
H. HOLD
HVT T401
HV RECT
FOCUS
DEF YOKE
L301 (10.5mH) (15.5Ω)
L302
L404 360μH 1.9Ω
L405
L403 (64μH) 0.3Ω
TP-33
TP-80
TP-82
TP-83
TP-84
POWER TRANS
AC220V 50Hz
FUSE1 T125mA 250V
FUSE2 T1.6A 250V
T501
J10
DC12V
X501 2SD313(E) VOLT REG
X502 2SC945L(P,Q) VOLT DRIVE
D503 RD11EV
S9
S10
AC
DC
EXT DC
BATT
BATTERY
P3
J3
X801 2SC930(E) FM RF AMP
X802 2SC930(E) FM CONV
X806 2SC929(D) SW OSC
X804 2SC929(D) MW/SW MIX FM IF AMP
X803 2SC929(D) MW OSC
X805 2SA844(C) METER DRIVE
IC 1 LA1201 FM/MW/SW IF AMP MW/SW DET
IC BIAS
CF-3 10.7MHz
CF-2 455KHz
T811
T810 BAR ANT
TP-801
TP-802
TP-803
REMOTE
CASSETTE LEAF SW
S8
J5
J2
P2
MOTOR
X503 2SA738(C) VOL REG
X504 2SA844(C,D) VOL REG
X505 2SC945L(P,Q) ERROR AMP
5.9V ADJ
MIX
IC 2 TBA810SH AUDIO OUT
TONE
VOL
X901 2SC536(F) AUD MIC AMP
X902 2SC536(F) AUD MIX AMP
X904 2SC945L(Q) METER ALC AMP
EXT MIC
BUILT IN MIC
J6
J8 EAR
SPEAKER 12cm 4Ω
P1
J1

DIODE	LOW	HIGH		FM	MW	SW
D1	0.74V	0.74V				
D2	0.78V	0V				
D3	0.78V	-0.3V				
D5	-14V	-14V	0.74V			
D10	0~0.35V		-0.52V			
D4,D9	-0.5V~19V					
D7	-0.5V~19V					
D6,D8	-1.38V	0.78V				
D12	-1.3V	-1.2V		0.75V	0V	-1.9V
D13	-1.7V	-1.6V		-2V	0V	0.75V
D14	-12V	0.74V				

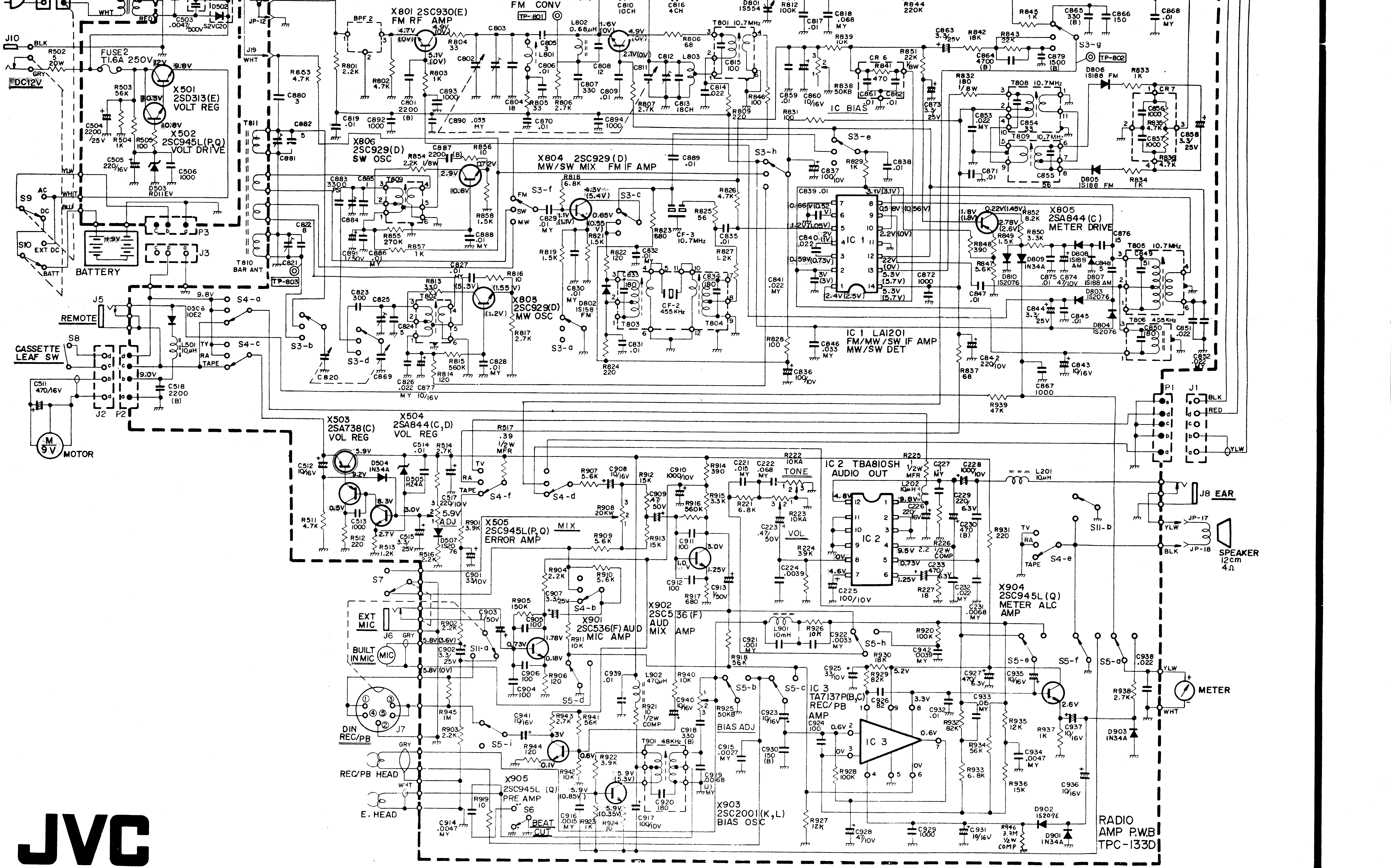
6. SELECTOR SW POSITION

S1 (a~f) TV BAND SW: LOW HIGH VHF, UHF

S3 (a~h) RADIO BAND SW: FM, SW, MW

S4 (a~f) SELECTOR: TV, RA, TAPE

S5 (a~f) REC/PB SW: PB, REC

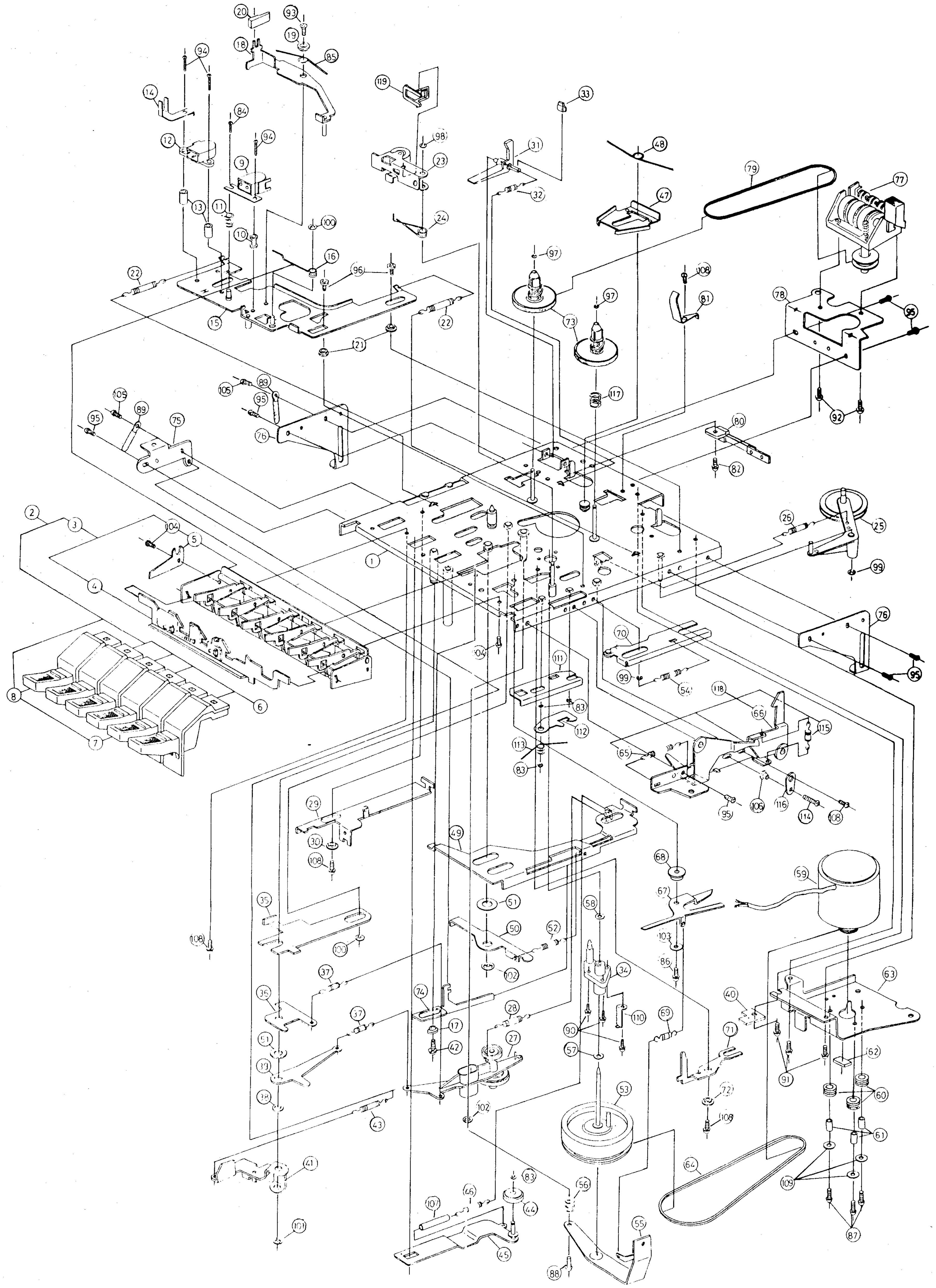

FM CONV
TP-801
X801 2SC930(E)
FM RF AMP
BPF 2
JP-12
J19
WHT
J10
BLK
R502 5 20W
FUSE2 T1.6A 250V
GRY
DC12V
C503 .0047/500V
D502 S2VC20
RED
X501 2SD313(E) VOLT REG
X502 2SC945L(P,Q) VOLT DRIVE
R503 56K
C504 2200/25V
R504 1K
R505 100
D503 RD11EV
C505 220/16V
C506 1000
9.8V
10.3V
10.8V
S9
S10
AC
DC
EXT DC
BATT
YLW
WHT
BLU
BATTERY
P3
J3
R853 4.7K
C880 3
C882 5
T811
C881
T810 BAR ANT
C821
TP-803
C822 8
R801 2.2K
R802 4.7K
C801 2200 (B)
R803 1K
R804 33
C802
C803
C804 18
R805 33
R806 2.7K
C805 3
L801
C806 .01
L802 0.68μH
C807 330
C808 12
C809 .01
C810 10CH
C811
C812
C813 18CH
L803
C814 .022
C815 100
C816 4CH
T801 10.7MHz
R806 68
R807 2.7K
R809 220
R846 100
D801 1S554
R812 100K
C817 .01
C818 .068 MY
R839 10K
R838 50KB
CR 6
R841 470
C861 .01
C862 .01
R851 22K 1/8W
R844 220K
C863 3.3/25V
R842 18K
R843 22K
C864 4700 (B)
C879 1500 (B)
R845 1K
C865 330 (B)
C866 150
C868 .01 MY
S3-g
TP-802
C819 .01
C892 1000
C893 1000
C890 .033 MY
C870 .01
C894 1000
C859 .01
C860 10/16V
IC BIAS
R831 100
C873 3.3/25V
R832 180 1/8W
T808 10.7MHz
C853 .022 MY
C854 33
T809 10.7MHz
C871 .01
C855 56
D806 1S188 FM
R833 1K
CR7
C856 1000
R835 4.7K
C857 1000
R836 4.7K
C858 3.3/25V
D805 1S188 FM
R834 1K
X806 2SC929(D) SW OSC
C887 2200 (B)
R856 10
R854 2.2K 1/8W
C883 3300
C885
T809
C884
R855 270K
R857 1K
R858 1.5K
C888 .01 MY
C891 1/50V
C886 .01 MY
X804 2SC929(D)
MW/SW MIX FM IF AMP
C889 .01
S3-h
S3-e
R829 1K
C838 .01
C837 100/10V
S3-f
FM
SW
MW
R818 6.8K
C829 .01 MY
S3-c
R823 680
CF-3 10.7MHz
R825 56
R826 4.7K
C835 .01
R827 1.2K
R819 1.5K
R821 1.5K
R822 120
C832 .01 MY
C833 180
C834 180
CF-2 455KHz
T803
T804
C830 .01 MY
D802 1S188 FM
S3-a
C831 .01
R824 220
C839 .01
IC 1
IC 1 LA1201
FM/MW/SW IF AMP
MW/SW DET
C840 .022
C841 .022 MY
C846 .033 MY
R828 100
C836 100/10V
C872 1000
X805 2SA844(C) METER DRIVE
R852 8.2K
R850 3.3K
R849 1.5K
R848 390
R847 5.6K
D810 1S2076
D809 1N34A
D808 1S188 AM
C848
D807 1S188 AM
C875 .01
C874 47/10V
C876 15
T805 10.7MHz
C849 51
C847 .01
D803 1S2076
C844 3.3/25V
C845 .01
D804 1S2076
T806 455KHz
C850 180
C851 .022
C852 .022
C842 220/10V
C843 10/16V
R837 68
C867 1000
R939 47K
P1
J1
BLK
RED
YLW
C823 300
C825
R813 330
T802
C824
C827 .01 MY
R816 10
X803 2SC929(D) MW OSC
R817 2.7K
R815 560K
R814 120
C828 .01 MY
C826 .022 MY
C877 10/16V
C820
C869
S3-b
S3-d
J5
REMOTE
D506 10E2
S4-a
S4-c
TY
RA
TAPE
L501 10μH
CASSETTE LEAF SW
S8
C518 2200 (B)
C511 470/16V
J2
P2
MOTOR
9V
X503 2SA738(C) VOL REG
X504 2SA844(C,D) VOL REG
R517 .39 1/2W MFR
C512 10/16V
D504 1N34A
C514 .01
R514 2.7K
D505 HZ4A
C517 220/10V
5.9V ADJ
R511 4.7K
C513 1000
R512 220
R513 1.2K
C515 3.3/25V
D507 1S2076
R516 2.2K
R901 3.9K
C901 33/10V
X505 2SC945L(P,Q) ERROR AMP
MIX
S4-f
S4-d
R907 5.6K
C908 10/16V
R908 20KW
R909 5.6K
R912 15K
C909 47/50V
R913 15K
C910 1000/10V
R914 390
R916 560K
R915 3.3K
C911 100
C912 100
R917 680
C913 1/50V
R904 2.2K
C907 3.3/25V
R910 5.6K
S4-b
X901 2SC536(F) AUD MIC AMP
X902 2SC536(F) AUD MIX AMP
R905 150K
C906 100
C905 100
C904 100
R911 10K
R906 120
S5-d
S7
EXT MIC
J6
BUILT IN MIC
MIC
C903 1/50V
R902 2.2K
C902 3.3/25V
S11-a
DIN REC/PB
J7
R945 1M
R903 2.2K
C941 10/16V
S5-i
R943 2.7K
R941 56K
R944 120
R942 10K
X905 2SC945L(Q) PRE AMP
REC/PB HEAD
E. HEAD
R919 10
C914 .0047 MY
S6
BEAT CUT
C916 .0015
R923 1K
R924 10
C939 .01
L902 470μH
R921 10 1/2W COMP
R922 3.9K
T901 48KHz (B)
C920 180
C917 100/10V
X903 2SC2001(K,L) BIAS OSC
C918 330
C919 .00168 (J) MY
R940 10K
C940 10/16V
R925 50KB
BIAS ADJ
S5-b
S5-c
C915 .0027 MY
C923 10/16V
C930 150 (B)
R918 56K
C921 .001 MY
L901 10mH
R926 10K
C922 .0033 MY
S5-h
C221 .015 MY
C222 .068 MY
R222 10KA
TONE
R221 6.8K
C223 47/50V
R223 10KA
VOL
R224 39K
C224 .0039
IC 2 TBA810SH AUDIO OUT
IC 2
C225 100/10V
R225 1/2W MFR
C227 1 MY
C228 1000/10V
L202 10μH
C226 220/16V
C229 220/6.3V
C230 470 (B)
R226 2.2 1/2W COMP
C233 470/6.3V
R227 18
C232 .022 MY
C231 .0068 MY
R931 220
L201 10μH
J8 EAR
S11-b
JP-17
JP-18
SPEAKER 12cm 4Ω
S4-e
X904 2SC945L(Q) METER ALC AMP
R920 100K
C942 .0039 MY
R930 18K
R929 82K
C925 33/10V
C926 82
IC 3 TA7137P(B,C) REC/PB AMP
IC 3
C924 100
R928 100K
C927 47/6.3V
C932 .01
C933 .05 MY
R932 82K
R934 56K
R933 6.8K
R935 12K
C934 .0047 MY
R936 15K
C935 10/16V
S5-e
S5-f
S5-a
C938 .022
R938 2.7K
METER
R937 1K
C937 10/16V
C936 10/16V
D903 1N34A
D902 1S2076
D901 1N34A
R946 3.3M 1/2W COMP
C931 10/16V
C929 1000
C928 47/10V
R927 12K
RADIO AMP P.W.B TPC-133D

JVC

VICTOR COMPANY OF JAPAN, LIMITED
B/W TELEVISION DIVISION

MODEL 3070EUS

Exploded View of Cassette Mechanism



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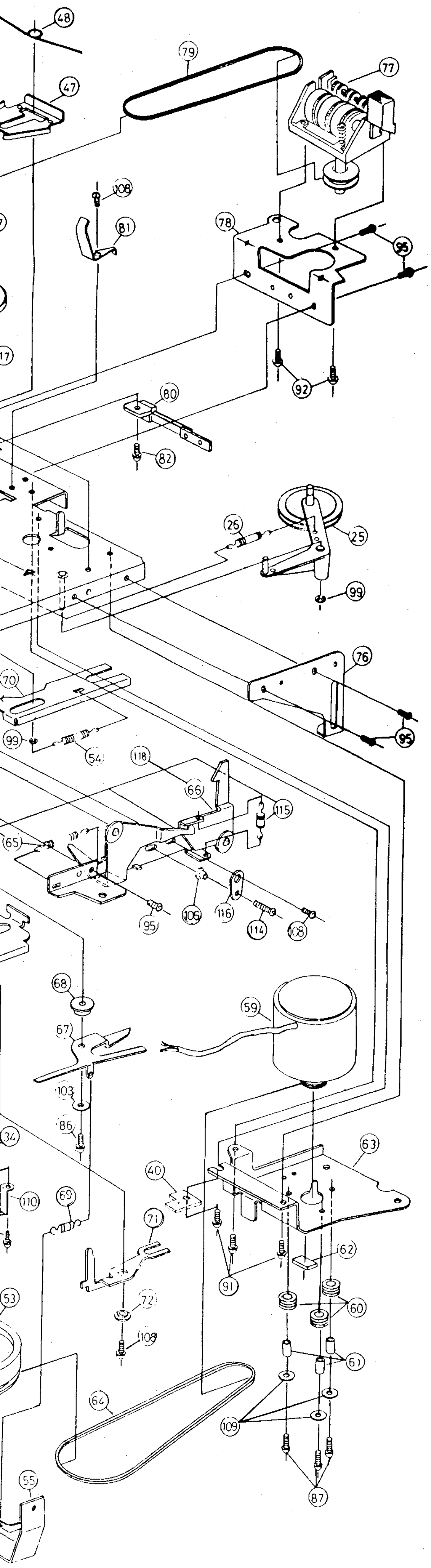


Cassette Mechanism Parts List

NO.	PARTS NO.	PARTS NAME	QTY
1	*8290182ZT	Mecha Chassis Ass'y	1
2	*8290296ZT	Push Button Switch Composite Ass'y	1
3	8290291ZT	Push Button Switch Ass'y	1
4	8290281ZT	Lock Plate Ass'y	1
5	170203T	Button Plate Spring	1
6	*V31177-001	Cassette Knob Ass'y (Play,FF,Rwd Pause)	4
7	*V31177-003	Cassette Knob Ass'y (Rec.)	1
8	*V31177-002	Cassette Knob Ass'y (Stop, Eject)	1
9	T48301-001	R/P Head	1
10	4080402T	R/P Head Stud	1
11	480408T	Spring	1
12	V03078-026	E. Head	1
13	8290410T	E. H. Stud	2
14	4080430T	Wire Clamp	1
15	5890481ZT	Head Panel Ass'y	1
16	4080405T	RQ. Spring	1
17	090302T	Collar	1
18	4080482ZT	Stop Detect Lever Ass'y	1
19	4080414T	Collar	1
20	4531301T	Stop Detect Contact	1
21	4080411T	Collar (for Head Panel)	2
22	4080413T	Spring (for Head Panel)	2
23	8290481ZT	Pinch Roller Ass'y	1
24	4080503T	Pinch Roller Spring	1
25	9700791BZT	Clutch Ass'y	1
26	2380406T	Spring (for Clutch Ass'y)	1
27	4080891ZT	FF. Idler Arm Ass'y	1
28	581316T	Spring (for FF. Idler Arm Ass'y)	1
29	5420301T	Rec. Slide Lever	1
30	090302T	Collar	1
31	2680503T	Rec. Safety Lever	1
32	1320303T	Spring	1
33	2680515T	Stopper	1
34	3690701T	FL. Brock	1
35	4080806T	RQ. Function Plate	1
36	4080815T	Rwd. Function Plate	1
37	4080810T	Spring (for FF. Function Plate)	1
38	1510305T	Special Washer (Nylon)	1
39	4080804T	FF. Function Plate	1
40	8290901T	Spring (for Rwd, Function Plate)	1
41	8200303T	Rec. Lever	1
42	LPSP2608Z	Screw	1
43	*180502T	Spring (for Rec. Lever)	1
44	2110902T	Rwd. Idler	1
45	4081081ZT	Rwd. Idler Arm Ass'y	1
46	020905BT	Spring (for Rwd. Idler Arm)	1
47	4080901T	Brake Arm	1
48	4080902T	Spring (for Brake Arm)	1
49	4080903T	Brake Function Plate	1
50	4080807T	RQ. Lever	1
51	110505T	Special Washer	2
52	4080811T	Spring (for RQ. Lever)	1
53	580903ZT	Flywheel Ass'y	1
54	180502T	Spring (for Slide Lever Ass'y)	1
55	4081195ZT	Flywheel Bracket Ass'y	1
56	060405T	Spring	1
57	4081120T	Special Washer	1
58	031503T	Special Washer	1
59	MHI-5F9CL	Motor	1
60	T45687-001	Rubber Cushion	3

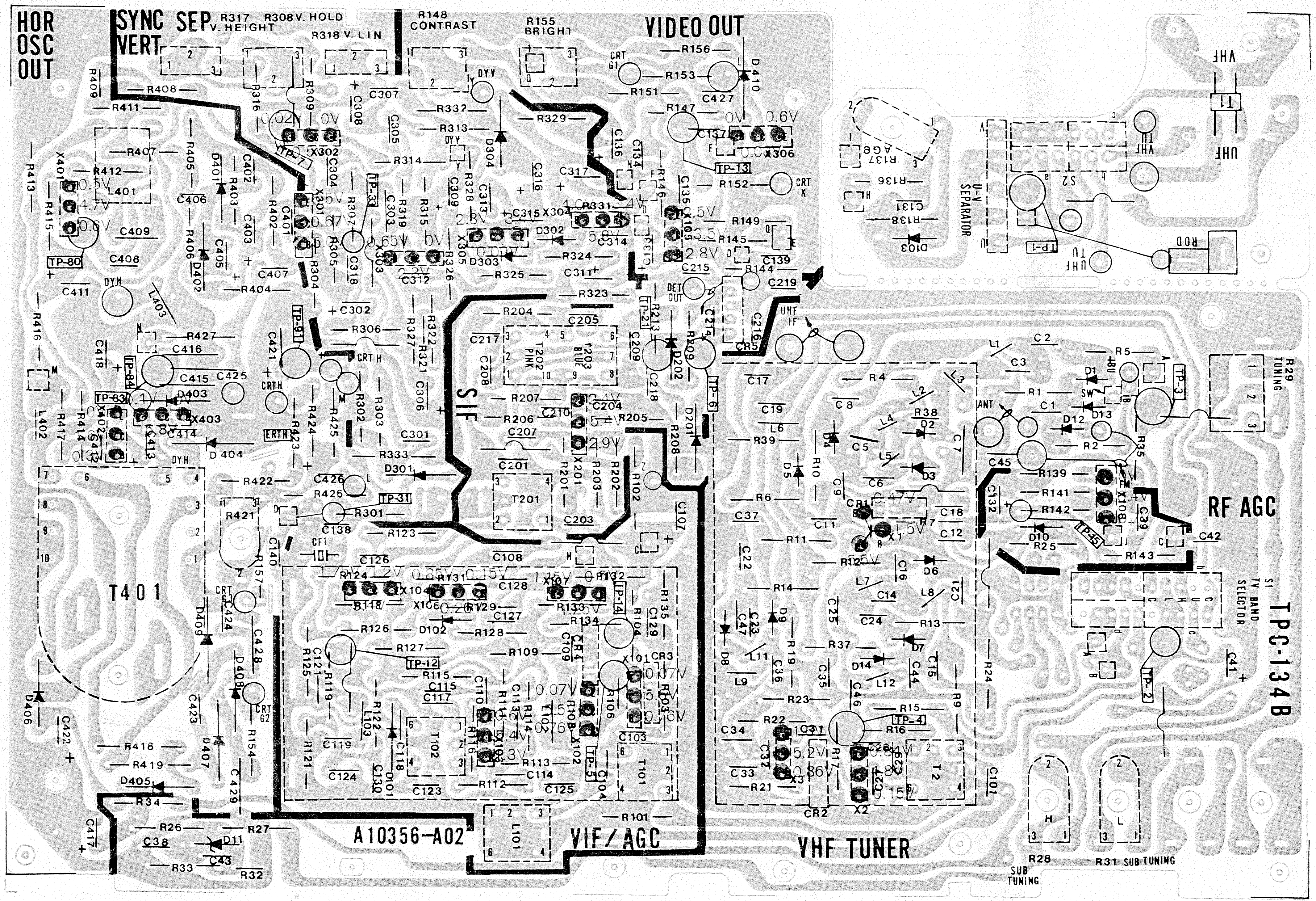
NO.	PARTS NO.	
61	4081211T	Motor
62	3130702T	Mat
63	584120T	Motor
64	4081203T	Main B
65	581204T	Spring
66	6671303T	Eject L
67	4081405T	Auto S
68	5421403T	Collar
69	020708T	Spring
70	4081581ZT	Slide L
71	4081503T	Pinch
72	2381304T	Collar
73	5720695ZT	Reel D
74	5420408T	Slide L
75	*8291920T	Side Br
76	*8291610T	Amp B
77	*V30712-010	Tape C
78	7561705T	Counte
79	*3931202T	Counte
80	6301401T	Leaf S
81	601010T	Pack S
82	SDSP2605Z	Screw
83	REE1500	E. Ring
84	SPSX2006Z	PM' Scr
85	4080515T	Spring (
86	LPSP2607Z	Screw
87	SPSP2607Z	Screw (
88	SPSP2610Z	Screw
89	4660901T	Clamp
90	LPSP2005Z	Screw
91	LPSP2604Z	Ass'y S
92	LPSP3006Z	Screw
93	SSSP2005Z	Screw
94	SPSP2011Z	Screw (
95	SPSD2604Z	TH. TA
96	SDSP2604Z	Screw
97	REE1200	E. Ring
98	REE1900	E. Ring
99	REE2000	E. Ring
100	REE2500	E. Ring
101	REE3200	E. Ring
102	REE4000	E. Ring
103	7061501T	Washer
104	SPSP2606Z	Screw (
105	SPSD2606Z	TH. TA
106	8291905T	Collar
107		Tube
108	LPSP2605Z	Ass'y Sc
109	031501T	Washer
110	4460701T	Earth Pl
111	5421881ZT	Pause Sl
112	8291401T	Pause Le
113	5421803T	Pause Le
114	SPSD2610Z	Screw
115	150102T	Spring (
116	540402T	Eject St
117	040508T	Spring
118	8291991ZT	Eject Le
119	*8290411T	Tape St

assette Mechanism Parts List

NO.	PARTS NO.	PARTS NAME	QTY
1	*8290182ZT	Mecha Chassis Ass'y	1
2	*8290296ZT	Push Button Switch Composite Ass'y	1
3	8290291ZT	Push Button Switch Ass'y	1
4	8290281ZT	Lock Plate Ass'y	1
5	170203T	Button Plate Spring	1
6	*V31177-001	Cassette Knob Ass'y (Play,FF,Rwd Pause)	4
7	*V31177-003	Cassette Knob Ass'y (Rec.)	1
8	*V31177-002	Cassette Knob Ass'y (Stop, Eject)	1
9	T48301-001	R/P Head	1
10	4080402T	R/P Head Stud	1
11	480408T	Spring	1
12	V03078-026	E. Head	1
13	8290410T	E. H. Stud	2
14	4080430T	Wire Clamp	1
15	5890481ZT	Head Panel Ass'y	1
16	4080405T	RQ. Spring	1
17	090302T	Collar	1
18	4080482ZT	Stop Detect Lever Ass'y	1
19	4080414T	Collar	1
20	4531301T	Stop Detect Contact	1
21	4080411T	Collar (for Head Panel)	2
22	4080413T	Spring (for Head Panel)	2
23	8290481ZT	Pinch Roller Ass'y	1
24	4080503T	Pinch Roller Spring	1
25	9700791BZT	Clutch Ass'y	1
26	2380406T	Spring (for Clutch Ass'y)	1
27	4080891ZT	FF. Idler Arm Ass'y	1
28	581316T	Spring (for FF. Idler Arm Ass'y)	1
29	5420301T	Rec. Slide Lever	1
30	090302T	Collar	1
31	2680503T	Rec. Safety Lever	1
32	1320303T	Spring	1
33	2680515T	Stopper	1
34	3690701T	FL. Brock	1
35	4080806T	RQ. Function Plate	1
36	4080815T	Rwd. Function Plate	1
37	4080810T	Spring (for FF. Function Plate)	1
38	1510305T	Special Washer (Nylon)	1
39	4080804T	FF. Function Plate	1
40	8290901T	Spring (for Rwd, Function Plate)	1
41	8200303T	Rec. Lever	1
42	LPSP2608Z	Screw	1
43	*180502T	Spring (for Rec. Lever)	1
44	2110902T	Rwd. Idler	1
45	4081081ZT	Rwd. Idler Arm Ass'y	1
46	020905BT	Spring (for Rwd. Idler Arm)	1
47	4080901T	Brake Arm	1
48	4080902T	Spring (for Brake Arm)	1
49	4080903T	Brake Function Plate	1
50	4080807T	RQ. Lever	1
51	110505T	Special Washer	2
52	4080811T	Spring (for RQ. Lever)	1
53	580903ZT	Flywheel Ass'y	1
54	180502T	Spring (for Slide Lever Ass'y)	1
55	4081195ZT	Flywheel Bracket Ass'y	1
56	060405T	Spring	1
57	4081120T	Special Washer	1
58	031503T	Special Washer	1
59	MHI-5F9CL	Motor	1
60	T45687-001	Rubber Cushion	3

NO.	PARTS NO.	PARTS NAME	QTY
61	4081211T	Motor Collar	3
62	3130702T	Mat	1
63	584120T	Motor Bracket	1
64	4081203T	Main Belt	1
65	581204T	Spring (for Eject Lever)	1
66	6671303T	Eject Lever Ass'y	1
67	4081405T	Auto Stop Lever	1
68	5421403T	Collar	1
69	020708T	Spring (for Auto Stop Lever)	1
70	4081581ZT	Slide Lever Ass'y	1
71	4081503T	Pinch Roller Arm Lever	1
72	2381304T	Collar	1
73	5720695ZT	Reel Disk Ass'y	2
74	5420408T	Slide Lever	1
75	*8291920T	Side Bracket	1
76	*8291610T	Amp Bracket	2
77	*V30712-010	Tape Counter	1
78	7561705T	Counter Bracket	1
79	*3931202T	Counter Belt	1
80	6301401T	Leaf Switch	1
81	601010T	Pack Spring	1
82	SDSP2605Z	Screw	1
83	REE1500	E. Ring	4
84	SPSX2006Z	PM' Screw (for R/P Head)	1
85	4080515T	Spring (for Stop Detect Lever)	1
86	LPSP2607Z	Screw	1
87	SPSP2607Z	Screw (for Motor)	3
88	SPSP2610Z	Screw	1
89	4660901T	Clamp	2
90	LPSP2005Z	Screw	1
91	LPSP2604Z	Ass'y Screw	3
92	LPSP3006Z	Screw	2
93	SSSP2005Z	Screw	1
94	SPSP2011Z	Screw (for R/P Head)	3
95	SPSD2604Z	TH. TAP. Screw	7
96	SDSP2604Z	Screw	2
97	REE1200	E. Ring	2
98	REE1900	E. Ring	1
99	REE2000	E. Ring	2
100	REE2500	E. Ring	2
101	REE3200	E. Ring	1
102	REE4000	E. Ring	2
103	7061501T	Washer	1
104	SPSP2606Z	Screw (for Push Button Switch Ass'y)	2
105	SPSD2606Z	TH. TAP. Screw	2
106	8291905T	Collar	2
107		Tube	1
108	LPSP2605Z	Ass'y Screw	5
109	031501T	Washer (ϕ10 x ϕ2.6 x t0.8)	3
110	4460701T	Earth Plate	1
111	5421881ZT	Pause Slide Lever Ass'y	1
112	8291401T	Pause Lever	1
113	5421803T	Pause Lever Spring	1
114	SPSD2610Z	Screw	1
115	150102T	Spring (for Lock Lev)	1
116	540402T	Eject Stopper Plate	1
117	040508T	Spring	1
118	8291991ZT	Eject Lever	1
119	*8290411T	Tape Stopper	1

Reverse Pattern of Printed Circuit Board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T201
T202
A10356-A02
VIF/AGC
VHF TUNER
RF AGC
TPC-134B
U-V SEPARATOR
VHF
UHF
ROD
R29 TUNING
S1 TV BAND SELECTOR
R28 SUB TUNING
R31 SUB TUNING
DET OUT
UHF IF
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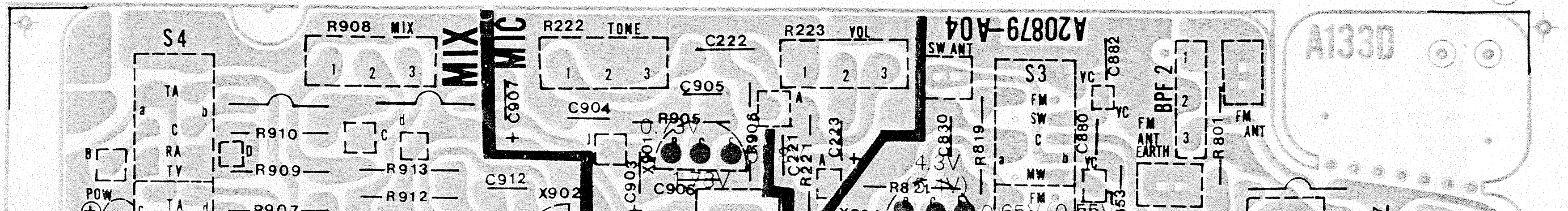
The Reverse Pattern of Printed Circuit Board for TV.

⑮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MIX
MIC
R222 TONE
C222
R223 VOL
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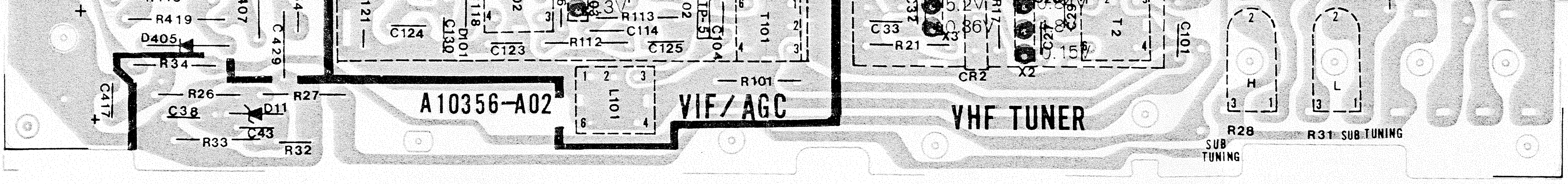
S3
BPF 2
FM ANT
A133D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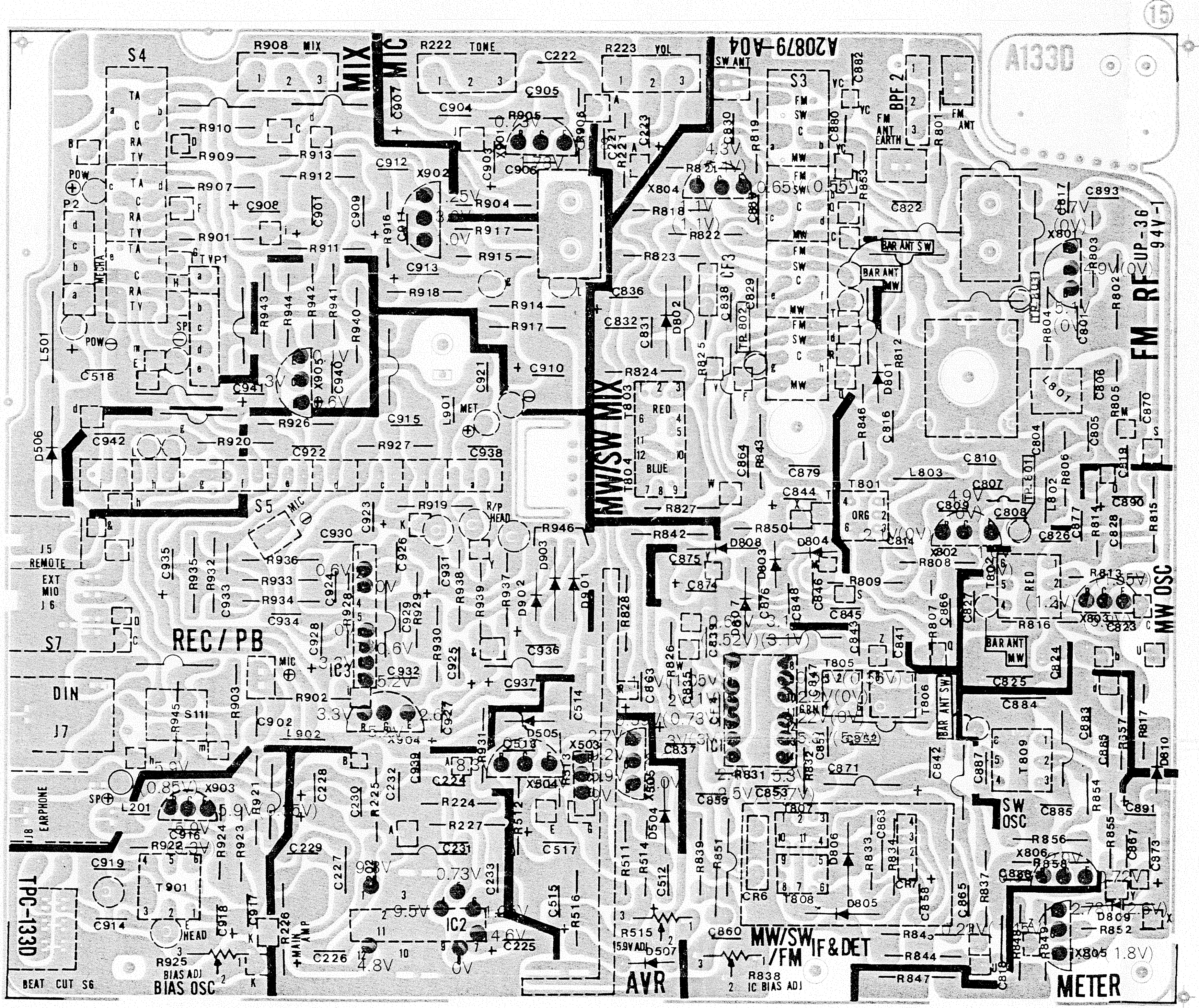
VHF TUNER
R28
SUB TUNING
R31 SUB TUNING

The Reverse Pattern of Printed Circuit Board for TV.


⑮
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A133D
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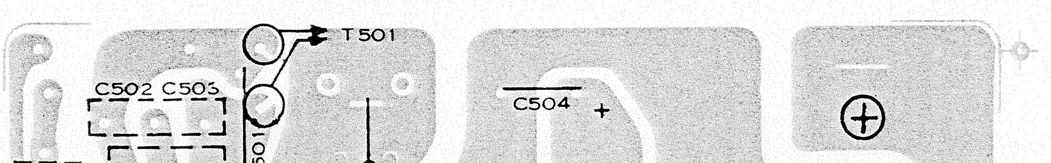
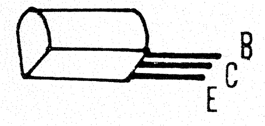
MIC
MW/SW MIX
REC/PB
FM RF
MW OSC
SW OSC
MW/SW/FM IF&DET
AVR
METER
BIAS OSC
TPC-133D
DIN
S4
S5
S7
BEAT CUT S6

The Reverse Pattern of Printed Circuit Board for Radio and Amp.


T501
C502 C503
C504

IC & Transistor Basing.



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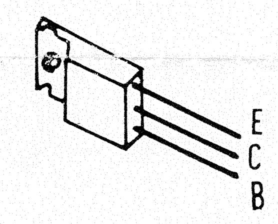
2SC1215
2SC1674(L,M)
2SC1890(E)
2SA564(Q)
2SC945L(P,Q)
2SC2264
2SC930(E)
2SC929(D)
2SC536(F)AUD
2SC2001(K,L)



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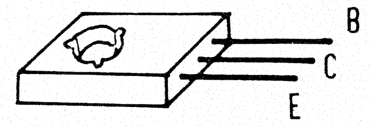

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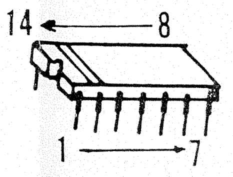
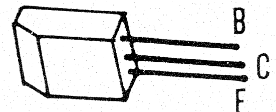
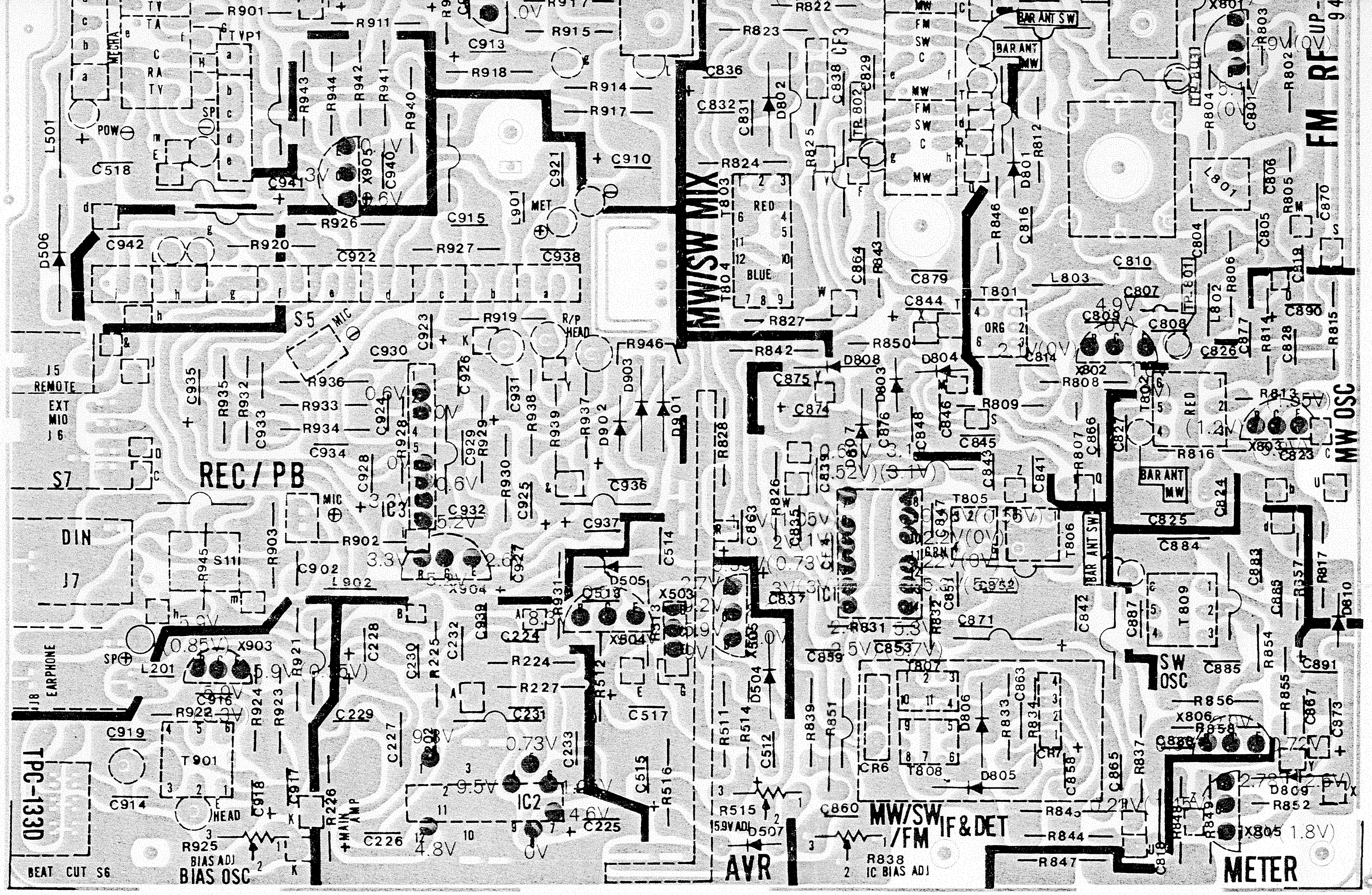
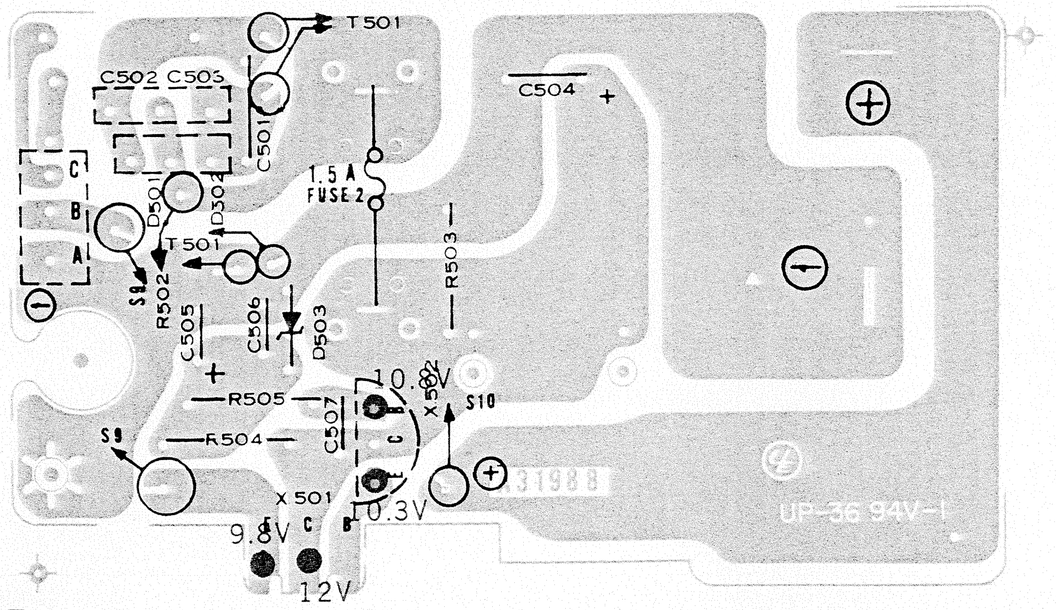




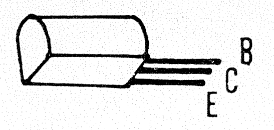

MW/SW MIX
REC/PB
FM RF
MW OSC
SW OSC
MW/SW /FM IF&DET
AVR
METER
BIAS OSC
BIAS ADJ
IC BIAS ADJ
BAR ANT SW
TPC-133D
BEAT CUT S6
DIN
J7
EARPHONE
J8
J5 REMOTE
EXT MIO J6
S5
S7
S11
IC2
IC3
MAIN AMP
HEAD
T901
R925
R838

The Reverse Pattern of Printed Circuit Board for Radio and Amp.

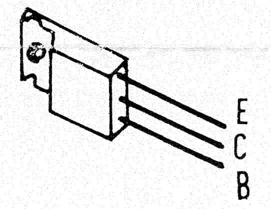

T501
C502
C503
C504
C501
1.5 A FUSE 2
D501
D502
T501
R502
S8
C505
C506
D503
R503
R505
R504
C507
X501
S9
S10
9.8V
10.8V
0.3V
1.2V
UP-36 94V-I

The Reverse Pattern of Printed Circuit Board for Power Supply.

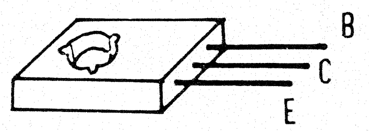
IC & Transistor Basing.



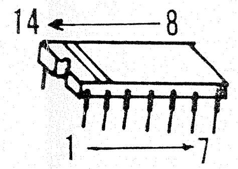
2SC1779(A)
2SC1215
2SC1674(L,M)
2SC1890(E)
2SA564(Q)
2SC945L(P,Q)
2SC2264
2SC930(E)
2SC929(D)
2SC536(F)AUD
2SC2001(K,L)



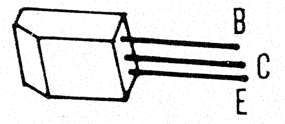
2SD313(E)



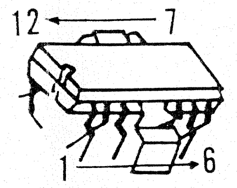
2SA738(C)



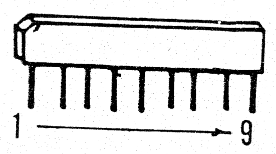
IC LA1201



2SC717
2SC454(C)
2SC458(C)
2SC1213(C)
2SA673(C)
2SA844(C,D)



IC TBA810SH



IC TA7137P(B,C)